

**EDWARD MOREY, PhD, 4-29-09**

1

1 IN THE UNITED STATES DISTRICT COURT FOR THE  
2 NORTHERN DISTRICT OF OKLAHOMA  
3  
4

5 W. A. DREW EDMONDSON, in his )  
6 capacity as ATTORNEY GENERAL )  
7 OF THE STATE OF OKLAHOMA and )  
8 OKLAHOMA SECRETARY OF THE )  
9 ENVIRONMENT C. MILES TOLBERT, )  
10 in his capacity as the )  
11 TRUSTEE FOR NATURAL RESOURCES )  
12 FOR THE STATE OF OKLAHOMA, )

13 Plaintiff, )

14 vs. )

15 TYSON FOODS, INC., et al, )

16 Defendants. )

17 - - - - -  
18 THE VIDEOTAPED DEPOSITION OF  
19 EDWARD MOREY, PhD, produced as a witness on  
20 behalf of the Defendants in the above styled and  
21 numbered cause, taken on the 29th day of April,  
22 2009, in the City of Tulsa, County of Tulsa, State  
23 of Oklahoma, before me, Lisa A. Steinmeyer, a  
24 Certified Shorthand Reporter, duly certified under  
25 and by virtue of the laws of the State of Oklahoma.

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918-587-2878**

**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

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**A P P E A R A N C E S**

1  
2  
3 FOR THE PLAINTIFFS: Ms. Ingrid Moll  
4 Attorney at Law  
5 20 Church Street  
6 17th Floor  
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8  
9 FOR TYSON FOODS: Mr. Timothy Jones  
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14 FOR CARGILL: Mr. Colin Deihl  
15 Mr. Eric Triplett  
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21 FOR SIMMONS FOODS: Mr. Bruce Freeman  
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29 320 South Boston  
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33 FOR GEORGE'S: Ms. K. C. Tucker  
34 Attorney at Law  
35 221 North College  
36 Fayetteville, AR 72701  
37  
38 ALSO PRESENT: Dr. Gordon Rausser  
39 (Via phone)  
40 Ms. Lisa Keating

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I N D E X

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1 (Whereupon, the deposition began at  
2 9:20 a.m.)

3 VIDEOGRAPHER: We are now on the record for  
4 the deposition of Dr. Edward Morey. The time is  
5 9:20 a.m. Today is April 29th, 2009. Counsel, 09:20AM  
6 please identify yourselves for the Record?

7 MR. DEIHL: This is Colin Deihl here on  
8 behalf of Cargill.

9 MR. TRIPLETT: Eric Triplett on behalf of  
10 Cargill. 09:21AM

11 MS. MOLL: Ingrid Moll for the State of  
12 Oklahoma.

13 MR. FREEMAN: Bruce Freeman for Simmons.

14 MR. JONES: Tim Jones for the Tyson Foods.

15 MR. MIRKES: Craig Mirkes for Peterson  
16 Farms.

17 MS. TUCKER: K. C. Tucker for the George's  
18 defendants.

19 VIDEOGRAPHER: And on the phone?

20 COURT REPORTER: Dr. Rausser, are you 09:21AM  
21 present on the phone?

22 DR. RAUSSER: Yes, I am. I just had it on  
23 mute. I'm sorry.

24 COURT REPORTER: That's okay. Thank you.

25 VIDEOGRAPHER: Okay. Thank you. You may

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1 now swear in the witness.

2 EDWARD MOREY, PhD

3 having first been duly sworn to testify the truth,  
4 the whole truth and nothing but the truth, testified  
5 as follows:

6 DIRECT EXAMINATION

7 BY MR. DEIHL:

8 Q Please state your name for the Record.

9 A Edward Morey.

10 Q Dr. Morey, what is your home and work 09:21AM  
11 addresses, please?

12 A My home address is 440 Oakwood Place, Boulder,  
13 Colorado 80304. And my work address?

14 Q Yes, please.

15 A Department of Economics, University of 09:22AM  
16 Colorado, Boulder, Colorado 80309.

17 Q What are your E-mail addresses?

18 A I have one E-mail address, which is my name,  
19 edward.morey@colorado, it's one word, dot edu.

20 Q Have you ever had your deposition taken 09:22AM  
21 before?

22 A I have.

23 Q How many times approximately?

24 A By how many times, do you mean how many days  
25 or how many times? 09:22AM

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1       **Q**       How many different matters have you been  
2       deposed about?

3       **A**       I was deposed twice on the same matter.

4       **Q**       Any other times?

5       **A**       No. 09:22AM

6       **Q**       What matter were you deposed in?

7       **A**       It was a damage assessment case in Montana.

8       **Q**       What was the nature of that damage assessment  
9       case?

10      **A**       It had to do with contaminants in the Clark 09:23AM  
11      Fork River.

12      **Q**       When approximately did that deposition occur?

13      **A**       As I said, there were two depositions, and  
14      it's a long time ago. I don't know. Over ten years  
15      ago. 09:23AM

16      **Q**       Do you recall what -- were you retained as an  
17      expert witness in that case?

18      **A**       I was.

19      **Q**       By whom were you retained?

20      **A**       I'm not sure exactly who I was working for, 09:23AM  
21      like who paid my bills. I believe it was Stratus  
22      Consulting.

23      **Q**       Do you know who the party Stratus Consulting  
24      was working for?

25      **A**       The State of Montana. 09:24AM

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1 Q Do you know how the case was captioned?

2 A What does the word caption mean?

3 Q Do you know what the -- who the parties were  
4 to that lawsuit?

5 A I believe ARCO was one of the parties. 09:24AM

6 Q What did you do to prepare for your deposition  
7 today?

8 A I read through the reports. I looked at the  
9 transcripts of the depositions from David Chapman  
10 and Roger Tourangeau. I met with Ingrid Moll 09:24AM  
11 yesterday and we talked about basically how this  
12 would work.

13 Q What -- how long did you meet with Ingrid Moll  
14 for?

15 A Three hours maybe. 09:25AM

16 Q Did you discuss the case yesterday?

17 A Yes.

18 Q Okay. What did you talk about regarding the  
19 case?

20 A Different questions that had come up in other 09:25AM  
21 people's depositions.

22 Q Did you discuss with Ms. Moll the kind of  
23 rules of the deposition?

24 A Yes. She told me where people would sit and  
25 what would happen and where you would be and where 09:25AM

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1 I'd be and she'd be and where the reporter would be  
2 and those guys and how the camera would work and  
3 things like that.

4 Q Okay. Let me lay out a few ground rules, if  
5 we could, before we get going in earnest. 09:26AM

6 A Okay.

7 Q The court reporter can only take down one of  
8 us talking at once. So I would ask that you allow  
9 me to complete my question before you answer the  
10 question. Is that fair? 09:26AM

11 A That's fair.

12 Q If at any time you need a break, let me know  
13 that. I'd be happy to oblige. I'd just ask that  
14 you not ask for a break between the time a question  
15 is pending and the time you give an answer to that 09:26AM  
16 question.

17 A Okay.

18 Q Is there any reason that you are unable to  
19 have your deposition taken today; for example, are  
20 you on any medications that would prevent you from 09:26AM  
21 concentrating or properly answering questions?

22 A No.

23 Q Have you ever testified in court before?

24 A Well, I -- when you say before, I mean, we  
25 wouldn't call what we're doing in court; right? 09:27AM

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1 Q You're correct.

2 A Okay. So, no, I have not testified in court.

3 Q Have you ever been qualified as an expert  
4 witness in any case?

5 MS. MOLL: Objection to form. 09:27AM

6 A I don't know.

7 Q Other than the matter that you described  
8 earlier where your deposition was taken in  
9 connection with the Clark Fork River in Montana --

10 A Right. 09:27AM

11 Q -- have you ever been retained as an expert  
12 witness?

13 A Yes.

14 Q What other matters have you been retained as  
15 an expert witness on? 09:27AM

16 A I worked on a damage assessment in the state  
17 of Wisconsin. I did some work on a damage  
18 assessment case in Idaho. I was a reviewer for part  
19 of a damage assessment in Florida, and I worked on  
20 one other case that I don't -- I think I'm not  
21 supposed to talk about. 09:28AM

22 Q Is that -- the other case that you think  
23 you're not supposed to talk about, is that ongoing?

24 A I haven't heard from them for a while so I  
25 assume it is, but -- 09:29AM

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1 Q With respect to the damage assessment matter  
2 that you worked on in the state of Wisconsin, who  
3 retained you in that matter?

4 A I was part of a team that was retained by the  
5 federal government. Let me hesitate there. I don't 09:29AM  
6 know officially who I was retained by. It's a long  
7 time ago. I remember making presentations, and  
8 there were people there from the federal government  
9 and the state government, and I would meet sometimes  
10 with people from both the state and the federal 09:29AM  
11 government.

12 Q You said you were on a team. Were any members  
13 of the team working for the Stratus Consulting  
14 group?

15 A Yes. 09:30AM

16 Q Okay. Who else was on that team from Stratus?

17 A The other primary investigator was Robert  
18 Rowe.

19 Q Was David Chapman involved in that damage  
20 assessment with the state of Wisconsin? 09:30AM

21 A I don't know. I have no recollection of him  
22 being involved in that.

23 Q What about the damage assessment that you did  
24 in Idaho; who retained you there?

25 A I was retained by or I was contacted by a 09:30AM

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1 professor by the name of Allen Randall, who was  
2 retained by I'm not sure, and so I was part of the  
3 team with Allen.

4 **Q** Was Stratus involved in that case?

5 **A** I have some vague recollection that they were 09:31AM  
6 involved with the injury part of the case, but I  
7 didn't have anything to do with the injury part of  
8 the case. I might have been -- again, this is a  
9 long time ago. I did some of the work with Bill  
10 Breffle, who was working at Stratus Consulting, so 09:32AM  
11 I'm not sure whether I was working through Stratus  
12 for the other team members or whether I was being  
13 paid directly by the other guys. I'm sorry, I just  
14 don't -- it was a long time ago.

15 **Q** Who was the client in the Idaho matter? 09:32AM

16 **A** I believe the federal government and a number  
17 of Indian tribes.

18 **Q** When approximately did you do the work that  
19 you did in connection with the state of Wisconsin?

20 **A** I could probably figure it out if you have a 09:32AM  
21 copy of my vitae.

22 **Q** We do. Why don't we mark that. You have in  
23 front of you a copy of your vitae, Dr. Morey?

24 **A** That's what it looks like, yes. What I was  
25 looking for here was a publication date, and I'm 09:33AM

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1 looking at a paper by William Breffle, myself,  
2 Robert Rowe and Don Waldman that appeared in the  
3 Handbook of Contingent Valuation, and that was March  
4 2006, so before 2006, probably at least a year or  
5 two before that, but again --

09:34AM

6 Q And when were you involved in the Idaho  
7 matter?

8 A I believe it was before the involvement in  
9 Wisconsin.

10 Q So sometime before 2005?

09:34AM

11 A Yes.

12 Q Can you pin it down a little more exactly than  
13 that by looking at your vitae?

14 A There were no publications that came out of  
15 that, and the process -- my involvement didn't last  
16 for a long time. So it could have been the late  
17 '90s, early 2000s. I'm just not sure.

09:35AM

18 Q Okay. You also mentioned that you were a  
19 reviewer on a damage assessment matter in Florida;  
20 did I get that right?

09:35AM

21 A Yes.

22 Q Who were you working for in that case?

23 A I was working for NOAA.

24 Q Was Stratus involved in that matter?

25 A They weren't principally involved in doing the

09:35AM

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1 damage assessment, and I believe I was hired to just  
2 do the review. I don't remember anyone else from  
3 Stratus doing the review. Again, that's my  
4 recollection.

5 **Q** When you say you were hired to do the review, 09:36AM  
6 describe for me what that means.

7 **A** They were -- the group that was doing the  
8 damage assessment made a number of progress reports  
9 to NOAA, and as part of that, there were certain  
10 deliverables, and there would be a meeting where 09:36AM  
11 they presented it, and I went to one or two such  
12 meetings.

13 **Q** This fourth matter that you said you're not  
14 supposed to talk about, when did you last work on  
15 that matter? 09:37AM

16 **A** Five years ago maybe.

17 **Q** Was Stratus involved in that matter?

18 **A** Yes.

19 **Q** Who was your contact person at Stratus in  
20 connection with that matter? 09:37AM

21 **A** Robert Rowe and Bill Breffle.

22 **Q** In front of you is what's been marked as  
23 Deposition Exhibit 1, which is your CV. Is this a  
24 current copy of your CV?

25 **A** It's not quite up to date. Whether it's the 09:37AM

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1 one on my web page or not, I'm not sure. Sometimes  
2 they update my vitae and then forget to upload the  
3 new version. It's close to correct.

4 **Q** Okay. What's missing?

5 **A** If we look under research in progress, the 09:38AM  
6 first item has been published and has come out in  
7 Ecological Economics. The second item under  
8 research in progress has been substantially revised,  
9 including a title change. The next item has been  
10 substantially revised and submitted for the journal, 09:39AM  
11 and I think that's it.

12 **Q** Let's talk about this case, the work that you  
13 did in connection with Tenkiller Lake and the  
14 Illinois River?

15 **A** Okay.

16 **Q** The Stratus report that was produced in this  
17 case. How did you come to be hired as an expert  
18 witness in connection with this matter?

19 **A** I was contacted by David Chapman and asked if  
20 I wanted to be a member of a very good team to look 09:40AM  
21 at damages associated with the injuries.

22 **Q** What did Mr. Chapman tell you about this  
23 matter?

24 **A** At what point?

25 **Q** When he first contacted you. 09:40AM

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1       **A**       He told me there was going to be a damage  
2       study. He told me it was in Oklahoma, in  
3       northeastern Oklahoma. He laid out or mentioned at  
4       least some of the people that would be -- he had  
5       spoken to and had -- I don't know if agreed is the       09:41AM  
6       right word -- tentatively agreed to participate. He  
7       told me it had to do with phosphorus, and that's all  
8       I recollect about that.

9       **Q**       What type of damage study were you initially  
10      asked to do?       09:42AM

11               MS. MOLL: Objection to form.

12      **A**       Could you be more explicit about what you mean  
13      by type? I mean, I can think of different  
14      dimensions.

15      **Q**       Did Dr. -- or did Mr. Chapman ask you --       09:42AM  
16      strike that. Did Mr. Chapman tell you what he  
17      wanted you to do in terms of the damage study in  
18      that initial phone call that you had?

19      **A**       As I believe I said, he said the objective was  
20      to estimate damages, and the way I would interpret       09:43AM  
21      that statement would be to estimate damages.

22      **Q**       Did you have an understanding of how you were  
23      going to estimate damages?

24      **A**       Well, my general understanding is that one  
25      wants to estimate damages, and that includes all the       09:43AM

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1 damages or at least all the damages associated with  
2 at least some of the injuries, and so I assumed we  
3 were measuring all the damages, and that means you  
4 need to use a technique that will estimate all of  
5 the damages.

09:44AM

6 **Q** In the prior matters that you described in  
7 Wisconsin, Idaho and Florida, what was the method  
8 you used for valuating the damages, the method you  
9 used for valuation?

10 **A** In Idaho --

09:44AM

11 **Q** Let's start with in Wisconsin.

12 **A** In Wisconsin. In Wisconsin, as I recollect,  
13 there was a discussion about doing a total valuation  
14 study and a separate rec study, and I, along with  
15 other people, considered how one might do a total  
16 valuation study, how one might do a rec study if  
17 they were doing a recreation study, and then I got  
18 more involved with the rec study.

09:45AM

19 **Q** When you say you got more involved in the rec  
20 study, does that mean you helped prepare the study  
21 survey documents?

09:45AM

22 **A** For the rec study?

23 **Q** Yes.

24 **A** I was involved in preparing the survey  
25 documents, yes.

09:46AM

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1       **Q**       How about in Idaho; what was the method for  
2       valuation used in the Idaho matter?

3       **A**       My recollection there was no method ever  
4       implemented that I know of.

5       **Q**       Did you discuss using a particular method in                   09:46AM  
6       the Idaho matter?

7       **A**       I was -- I was asked to think about if someone  
8       was going to do a travel cost study, what might it  
9       pick up or not pick up and how might it be done, but  
10      that was very preliminary.   09:46AM

11      **Q**       Okay, and how about in the Florida case where  
12      you were a reviewer; what was the method for  
13      valuation in that case?

14      **A**       I don't know how many different methods were  
15      applied in that case. I reviewed some work on                       09:47AM  
16      recreational demand.

17      **Q**       In any of the prior matters that you have  
18      mentioned, did you use a contingent valuation  
19      survey?

20      **A**       In Wisconsin, one component of our survey had               09:47AM  
21      a stated preference component using choice  
22      experiments, which are a generalized form of  
23      contingent valuation.

24      **Q**       How about in any of the other matters you've  
25      mentioned?   09:48AM

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1 of user would be people who currently don't fish,  
2 haven't fished but might be fishing if the site  
3 wasn't injured. My recollection -- do you have a  
4 paper or something I could look at?

5 Q I don't. 09:50AM

6 A Okay. That we included people I believe in  
7 the user category, and I'm not sure of this, we  
8 included people who had licenses who lived in a  
9 certain number of counties around Green Bay. So  
10 that would include people who currently fished at 09:51AM  
11 the site, people who fished at other sites in the  
12 area and people who, for one reason or another,  
13 lived in the area and had a fishing license.

14 Q Again, in that case, did you only survey users  
15 as you've defined users? 09:51AM

16 A In the rec part of the study, yes.

17 Q You mentioned that you -- one component of  
18 your work in Wisconsin was a stated preference  
19 component; correct?

20 A Yes. 09:51AM

21 Q Other than the work you did on the stated  
22 preference component in Wisconsin, have you been  
23 involved in any other stated preference surveys?

24 A Yes.

25 Q Describe for me which other stated preference 09:52AM

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1 surveys you've been involved in.

2 **A** I'll start with current and work backwards  
3 just because that's easier for me.

4 **Q** Sure.

5 **A** I'm working on a number of papers, some of 09:52AM  
6 which are under review, based on a stated preference  
7 survey of mountain bikers, about how they choose  
8 where to bike and what it depends on. I was  
9 involved in developing and implementing a survey of  
10 all the econ faculty members at the top 50 09:53AM

11 universities in the United States. The data for  
12 that has all been collected and it's still being  
13 worked on. I've done a medical study that resulted  
14 in a number of publications about people choosing  
15 over different medical treatments. I've done a 09:53AM

16 stated preference survey on valuing cultural  
17 monuments in Washington, D.C. I have a paper where  
18 I didn't develop the survey but it's a CVM  
19 referendum survey that I helped write a paper using  
20 the data from that survey. I did a survey of a 09:53AM

21 program to buy back highly polluting cars in the  
22 Denver area that had a stated preference component  
23 to it, again, would you sell your car to us for this  
24 amount of money. Do you want me to go through this  
25 and -- 09:54AM

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1       **Q**       No. That's fine. Would you consider any of  
2       those surveys that you just described to me to  
3       include -- to be contingent valuation surveys?

4       **A**       I -- could you tell me what you mean by  
5       contingent valuation survey? I'm not sure where to       09:55AM  
6       draw the line between --

7       **Q**       What's your understanding of what a contingent  
8       valuation survey is, Dr. Morey?

9       **A**       People are presented with alternatives and  
10      asked which of those alternatives they prefer, and       09:55AM  
11      those two alternatives vary in terms of a number of  
12      things, one of which is always the cost to the  
13      individual. So the individual decides between  
14      programs. That description would include both  
15      referendum CVM, which is what you probably have in       09:56AM  
16      mind, and what's called choice experiments or  
17      conjoint.

18              CVM is a special case of that, in the sense  
19      that one of the alternatives is the status quo, and  
20      the only thing that changes between the two       09:56AM  
21      alternatives is this is the status quo, typically at  
22      a zero cost or no additional cost; this is the  
23      alternative state of the resources at a different  
24      cost.

25      **Q**       What type of survey did you use in this       09:56AM

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**22**

1 matter?

2 **A** This matter meaning --

3 **Q** Meaning State of Oklahoma.

4 **A** Yeah. I just wanted to make sure we weren't

5 still on one of -- we used a referendum CVM survey. 09:56AM

6 **Q** Have you used a referendum CVM survey in any  
7 other matters?

8 **A** In the list that I just went through, the  
9 study of buying old cars was a referendum CVM. It

10 had a referendum CVM component I should say. A 09:57AM

11 study where we wrote a paper using the data from a  
12 referendum CVM is a recent paper in Ecological  
13 Economics about valuing the landscape in Sicily. I  
14 did that with a number of co-authors in Italy.

15 **Q** You wrote the paper using the data from the 09:57AM  
16 survey; is that correct?

17 **A** With the other team members. I was not  
18 involved in developing the survey.

19 **Q** Okay.

20 **A** I've done another CVM study but I wouldn't 09:58AM  
21 use -- we didn't use a referendum format.

22 **Q** Anything else?

23 **A** That's the best my recall can do at the  
24 moment.

25 **Q** Okay. Dr. Morey, I've handed you what's been 09:58AM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09****23**

1 marked as Deposition Exhibit No. 2, which is a  
2 series of E-mails dated in late June of 2006. The  
3 top E-mail is dated June 30, 2006 at 5:09 p.m.; do  
4 you see that?

5 **A** Give me a second to read through it. I'm 09:59AM  
6 finished.

7 **Q** In this E-mail David Allen from Stratus is  
8 telling you you'll be receiving a retainer agreement  
9 from Motley Rice regarding the Oklahoma poultry  
10 litigation; is that correct? 10:00AM

11 **A** Yes. The middle E-mail, that's what it says,  
12 you'll be receiving a retainer agreement from the  
13 law firm of Motley Rice.

14 **Q** Were you involved in the Oklahoma poultry  
15 litigation by the summer of 2006? 10:00AM

16 **A** Possibly in August. I don't recollect working  
17 on it before then. So starting in August or  
18 September.

19 **Q** Okay. I assume that prior to the date of  
20 these E-mails, you had already talked to David 10:01AM  
21 Chapman regarding the work that he wanted you to do;  
22 is that correct?

23 **A** Let me just look at the dates here. So the  
24 last one was the end of June, June 26th, June 26th.  
25 I'm not sure, but that's probably the case. 10:01AM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

**24**

1       **Q**       Were you involved in the -- strike that. Were  
2       you involved in the recreation intercept survey that  
3       was done in connection with Tenkiller Lake and the  
4       Illinois River?

5       **A**       Was I involved in the survey, could you -- 10:02AM

6       **Q**       Did you do any work related to that survey?

7       **A**       Not that I recollect, no. You mean  
8       actually -- let me just clarify. You mean actually  
9       the survey, right, developing the survey and  
10      implementing the survey and that sort of thing? 10:03AM

11      **Q**       Yes.

12      **A**       No.

13      **Q**       When you first started working on the project  
14      in the summer of 2006, what did -- what were you  
15      asked to do? 10:03AM

16      **A**       The first thing we were asked to do or at  
17      least the first thing I was asked to do was to visit  
18      the site.

19      **Q**       Okay. What did you do after that?

20      **A**       I went to a meeting in late August, September, 10:03AM  
21      October, somewhere in that time period, either here  
22      in Tulsa or in Oklahoma City where there were more  
23      people than just our team. Some of the injury  
24      people were there, and there was a day or two of  
25      presentations. 10:04AM

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**EXHIBIT E**



**EDWARD MOREY, PhD, 4-29-09**

**25**

1       **Q**       Did you make a presentation?

2       **A**       No.

3       **Q**       Dr. Morey, I've handed you what's been marked  
4       as Deposition Exhibit No. 3. Have you seen this  
5       document before?

10:05AM

6       **A**       Let me look. May I ask you, is this a copy of  
7       the intercept survey?

8       **Q**       This document was in your considered by  
9       materials.

10      **A**       Okay.

10:05AM

11      **Q**       And I'd like you to tell me what it is.

12      **A**       It's -- I want to be careful here because I  
13      don't want to say more than I know for sure. I  
14      believe it to be a draft or a final version of that  
15      survey. I haven't looked -- I didn't look at the  
16      survey until after it was completed. So if it was  
17      in my materials, it's probably a copy of the  
18      intercept survey. That said, there's some -- I'm  
19      looking at some questions that don't just pop into  
20      my memory as I go, oh, that's it. Again, I'm sorry  
21      I can't be more --

10:07AM

10:07AM

22      **Q**       So I heard you to say you did look at the  
23      intercept survey at some point in time prior to  
24      today; is that correct?

25      **A**       My strong recollection is looking at summary

10:08AM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

**26**

1 statistics from the survey.

2 Q Why were you looking at summary statistics  
3 from the intercept survey?

4 A Some data had been collected about intercepted  
5 users, and I was trying to get a lay of the land and 10:08AM  
6 lay of the water, and it provided some feedback from  
7 avid users.

8 Q Would it be typical for you to try to gather  
9 information, like the intercept survey, in preparing  
10 to do the type of referendum CVM survey that you did 10:09AM  
11 in this case?

12 MS. MOLL: Objection to form.

13 A Could you repeat it?  
14 (Whereupon, the court reporter read  
15 back the previous question.) 10:09AM

16 A I would say it would be common practice to  
17 learn something about -- try and learn something  
18 about both users and non-users.

19 Q Dr. Morey, I've handed you what's been marked  
20 for purposes of identification as Deposition Exhibit 10:10AM  
21 4, which is an E-mail from you to David Chapman  
22 dated October 3rd, 2006, with an attachment of draft  
23 items for initial telephone survey. Do you have  
24 that in front of you?

25 A Yes. So an E-mail from me to David Chapman 10:10AM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

**27**

1 October 2006.

2 Q Were you involved in drafting the telephone  
3 survey that was done of -- that was done in  
4 connection with this matter?

5 A Yes. 10:11AM

6 Q What were the goals of that telephone survey?

7 A The factor that motivated the survey was there  
8 was stuff about the poultry industry and poultry  
9 litter and that sort of thing in the media, and we  
10 wanted to find out what people -- what people had 10:12AM  
11 heard or hadn't heard and find out what people knew.

12 Q Why was it important to you, as one of the  
13 survey designers, to find out what people knew about  
14 the poultry industry and poultry litter?

15 MS. MOLL: Objection to form, 10:13AM  
16 mischaracterizes prior testimony.

17 A Okay. Now I've forgotten the question.

18 (Whereupon, the court reporter read  
19 back the previous question.)

20 A I think that -- I mean, what -- two things I'm 10:13AM  
21 struggling with and -- it was a team decision. I  
22 don't know that -- I didn't mean to suggest that it  
23 was terribly, what was your word, important to me  
24 personally. It's the case that in a valuation  
25 study, one characterizes the current conditions, and 10:14AM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

**28**

1 how one characterizes current conditions is in part  
2 a function of people's current beliefs and people's  
3 current perceptions.

4 Q Was one of the goals of the recreation  
5 telephone survey to help you characterize the 10:16AM  
6 current conditions of the river and lake?

7 MS. MOLL: Objection to form.

8 A To my knowledge there wasn't a telephone  
9 recreation survey.

10 Q I meant the telephone survey. 10:16AM

11 A Okay.

12 Q Excuse me.

13 A Was one of the intentions to do what?

14 Q To help you characterize the current  
15 conditions of the river and lake. 10:16AM

16 MS. MOLL: Objection to form.

17 A The intent was to simply learn what people's  
18 perceptions and beliefs were.

19 Q By this time, in October of 2006, you already  
20 had the results from the intercept survey; correct? 10:17AM

21 A Yes.

22 Q And I take it you had reviewed those results  
23 as part of your work on this project?

24 A I believe so.

25 Q Did you look at the summary statistics from 10:17AM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

**29**

1 that intercept study?

2 **A** Yes.

3 **Q** What were your conclusions regarding user  
4 interpretation of water quality based on that  
5 intercept survey?

10:17AM

6 MS. MOLL: Objection to form.

7 **A** Do you have an exhibit that I've --

8 **Q** I'm asking for your impressions right now.

9 **A** You're asking for my impressions right now --

10 **Q** Yes, uh-huh.

10:18AM

11 **A** -- of what I thought three or four years ago?

12 **Q** Yes. Well, what do you think now? What's  
13 your impression of the intercept survey, Dr. Morey?

14 **A** People -- there are visitors to the site. I  
15 believe the survey asked people -- I recollect that  
16 the survey asked people to recollect a few things  
17 they like about the site and a few things that they  
18 maybe don't like about the site. I can interpret  
19 the numbers, if you'd like, if you want to show me  
20 the numbers, but --

10:18AM

10:19AM

21 **Q** Did you interpret the numbers when you looked  
22 at that survey back in the fall of 2006?

23 **A** I assume I did, but do I recollect exactly  
24 what I concluded, no.

25 **Q** Okay. Do you have a general impression, based

10:19AM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

30

1 on that intercept survey, whether the users of the  
2 resource liked the river and lake?

3 **A** I would say that's a fair characterization,  
4 but let me add the following, and that's that people  
5 who buy something or use something typically

10:20AM

6 describe it as something that they like. So the  
7 fact that a user or a purchaser of a product would  
8 say I like that doesn't jump out at me in any way.

9 **Q** Thank you. We need to do a tape change and  
10 take a quick break.

10:20AM

11 VIDEOGRAPHER: We are off the Record. The  
12 time is 10:19 a.m.

13 (Following a short recess at 10:19  
14 a.m., proceedings continued on the Record at 10:27  
15 a.m.)

10:28AM

16 VIDEOGRAPHER: We are back on the Record.  
17 The time is 10:27 a.m.

18 **Q** Dr. Morey, did the team consider the results  
19 from the intercept survey in preparing the telephone  
20 survey?

10:28AM

21 MS. MOLL: Objection to form.

22 **A** We were aware of those results, but we wanted  
23 to sample a completely different population. So  
24 there's no reason to suspect that the answers would  
25 be -- so only tangentially.

10:29AM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09****31**

1       **Q**       You said there's no reason to suspect that the  
2       answers would be what?

3       **A**       In the one case we were trying to find out  
4       what avid users know about the lake and river and  
5       what their initial comments are about the lake and       10:30AM  
6       river. In the second survey, since it's a general  
7       population survey, we wanted to find out if they  
8       knew about the river. That's not a question you  
9       would ask someone who is at the lake. So there's  
10      things that you know about someone because they've       10:30AM  
11      been there or they're there at the moment. So a  
12      number of the questions would not be appropriate for  
13      people who were intercepted but would be  
14      appropriate, have you been there, have you seen it,  
15      do you go to other rivers and likes, that sort of       10:30AM  
16      things. So it wasn't as if the answer to some  
17      question on the first -- the intercept survey would  
18      help us to decide what to ask and how to ask it.

19      **Q**       A little bit ago we talked about your  
20      definition of what a user is in connection with the       10:31AM  
21      Wisconsin survey, and you defined it for me. Using  
22      that definition, your definition of what a user is,  
23      did you survey non-users in connection with the  
24      Wisconsin matter?

25      **A**       As I answered, my recollection is we surveyed       10:31AM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09****32**

1 people who lived in a well-defined region around  
2 Green Bay. I don't remember the exact dimensions of  
3 the region, and everyone who had purchased a fishing  
4 license and lived in that region was in the  
5 population of interest from which we sampled.

10:32AM

6 **Q** In that particular matter, why didn't you  
7 survey people who didn't have a fishing license?

8 **A** Well, those people -- some of those people  
9 might be substantially injured or, excuse me, might  
10 be substantially damaged by the injuries. Since  
11 they're not currently part of the fishing population  
12 and are not participating in recreational angling at  
13 all at this point, it's difficult to estimate that  
14 component of use damages.

10:32AM

15 **Q** Why is it difficult to estimate that component  
16 of use damages?

10:33AM

17 **A** The people in that group that are damaged are  
18 people who would have visited the site in the  
19 absence of injuries. Now, the injuries in that case  
20 have gone on for many, many years, so you'd have to  
21 ask them a retrospective question about how would  
22 your behavior have been different if 20 years ago  
23 such and such had not happened. In use studies --  
24 let me add one more thing. In use studies, often  
25 significant component of use are not estimated.

10:33AM

10:34AM

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**EXHIBIT E**



**EDWARD MOREY, PhD, 4-29-09**

**33**

1       **Q**       Dr. Morey, I've handed you what's been marked  
2       as Deposition Exhibit No. 5, which is an E-mail from  
3       you to David Chapman, Rich Bishop and Colleen Kenney  
4       dated November 27th, 2006. Do you have that in  
5       front of you?

10:35AM

6       **A**       I do.

7       **Q**       And attached to this E-mail is a document that  
8       at the top states some initial thoughts on the phone  
9       survey-Edward.

10      **A**       I see that.

10:35AM

11      **Q**       Are these your initial thoughts on the phone  
12      survey?

13      **A**       These were thoughts I jotted down on that  
14      date.

15      **Q**       And these are your thoughts on the phone  
16      survey; correct?

10:36AM

17      **A**       My initial thoughts on the phone survey at  
18      that time.

19      **Q**       Was this before or after the phone survey had  
20      been conducted; do you know?

10:36AM

21      **A**       The fact that I'm reporting summary statistics  
22      indicates that it was either after or after some of  
23      the data came out.

24      **Q**       And you say that because you were analyzing  
25      data in this initial thoughts on the phone survey;

10:37AM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

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1 correct?

2 **A** Well, I wasn't analyzing data, so I'm not sure  
3 how to respond.

4 **Q** You had looked at the data before you wrote  
5 these thoughts; right? 10:37AM

6 **A** I don't -- I don't recollect looking at the  
7 raw data.

8 **Q** What do you recollect looking at?

9 **A** I don't recollect anything at the moment, but  
10 the fact I put numbers in would suggest that I was 10:38AM  
11 looking at some summary statistics.

12 **Q** I want you to take a look at your fourth  
13 paragraph on your initial thoughts. You write, when  
14 those people with awareness of the sites were asked  
15 their impressions of the sites, open paren, good or 10:38AM  
16 bad, closed paren, few mentioned pollution. Most  
17 mentioned good things, colon, 9 percent mentioned  
18 pollution or chicken waste for the Illinois River, 3  
19 percent for Tenkiller. Did I read that correctly?

20 **A** I believe you did. 10:39AM

21 **Q** Does that refresh your recollection of what  
22 the results of that telephone survey showed?

23 **A** That 9 percent mentioned pollution or chicken  
24 waste for the Illinois River and 3 percent for  
25 Tenkiller. 10:39AM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

35

1 Q And few mentioned pollution; correct?

2 A That's what it says.

3 Q And most mentioned good things?

4 A That's what it says.

5 Q These are your notes; right? 10:39AM

6 A They are my notes.

7 Q And did those results correlate with the  
8 results you had received based on the recreation  
9 intercept survey?

10 MS. MOLL: Objection to form. 10:40AM

11 A The word was relate?

12 Q No. The word --

13 MR. DEIHL: Could you read back the  
14 question, please?

15 (Whereupon, the court reporter read 10:40AM  
16 back the previous question.)

17 A And I'm sorry, but what do we mean by  
18 correlate?

19 Q Did you receive similar results from the  
20 recreation intercept survey that you received from 10:40AM  
21 the telephone survey?

22 MS. MOLL: Objection to form.

23 A I mean, I would -- to answer that question,  
24 I'd want to look at the summary statistics or the  
25 telephone survey, the summary statistics for the 10:41AM

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**EDWARD MOREY, PhD, 4-29-09**

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1 intercept survey. I'd want to compare the questions  
2 to see when the same questions were asked. Do you  
3 want me to do all that now?

4 Q At any point in time did you do that?

5 A I don't specifically recollect doing that. 10:41AM

6 Q Was it important to you, as a survey designer,  
7 to look at the results from the intercept survey and  
8 the results from the telephone survey and see  
9 whether or not those results correlated with each  
10 other? 10:42AM

11 MS. MOLL: Objection to form.

12 MR. DEIHL: I don't understand what you are  
13 objecting to the form of that question. What's the  
14 objection?

15 MS. MOLL: It's vague. 10:42AM

16 A As I said, with both this survey, the  
17 telephone survey of the general population and the  
18 intercept survey, the idea was to get a general feel  
19 for what people do or don't do, like, do they know  
20 where the site is for the non-users; have they 10:43AM  
21 visited the site; do they visit other recreational  
22 sites, and what pops into their mind when the site  
23 is mentioned. We did that for the intercepted  
24 users. We did that for these people. We came away  
25 with a sense of the statistics of is it important 10:43AM

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**EDWARD MOREY, PhD, 4-29-09****37**

1 that somebody literally matched up question for  
2 question and said 9 percent here, 12 percent here or  
3 5 percent there. No, I don't think that's important  
4 or critical to the process.

5 **Q** So you were looking for what popped into 10:43AM  
6 people's mind in these two surveys, and as indicated  
7 by your notes, what popped into people's mind was  
8 that most mentioned good things about the Illinois  
9 River and Tenkiller Lake; correct?

10 **A** That is correct, but let me add for the Record 10:44AM  
11 that that in my professional opinion doesn't tell me  
12 anything about is the site injured or not injured.  
13 It just tells me about people's perceptions.

14 **Q** Now, if you direct your attention down the  
15 page a little bit to the last paragraph before the 10:44AM  
16 section entitled Media Part of Survey, you wrote --  
17 in your initial thoughts on the phone survey, you  
18 wrote if estimated damages are to be significant,  
19 people will have to be educated about the injuries.  
20 There is currently not a lot of knowledge of the 10:45AM  
21 injuries. Is that what you wrote?

22 **A** It is.

23 **Q** What did you do to educate people about the  
24 injuries?

25 MS. MOLL: Objection to form. 10:45AM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

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1       **A**       Which people?

2       **Q**       I'm just reading your note here. It says if  
3       estimated damages are to be significant, people will  
4       have to be educated about the injuries. My question  
5       was, what did you do to educate people about the  
6       injuries as you've used in your note?

10:46AM

7       **A**       What did I do to educate them about the  
8       injuries?

9       **Q**       That was my question, Dr. Morey.

10      **A**       Okay. My statement here is poorly phrased,  
11      and let me -- let me explain. As part of a damage  
12      assessment, people, and by people I mean people  
13      taking the damage assessment survey, have to have an  
14      adequate understanding of the current conditions of  
15      the resource, and they have to have an understanding  
16      of the conditions of the resource in another set of  
17      conditions. So educated in this context just means  
18      describing the state of the resources.

10:46AM

10:47AM

19      **Q**       So what did you and the Stratus team do to  
20      educate survey respondents about the condition of  
21      the resources?

10:47AM

22      **A**       There is a whole section of the survey that we  
23      can walk through, if you'd like, that describes a  
24      set of conditions, describes another set of  
25      potential conditions and it's those descriptions of

10:48AM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

39

1 the two sets of conditions in the survey.

2 Q Can an individual suffer damages if the  
3 individual doesn't know about an injury?

4 A Can an individual suffer damages if the  
5 individual does not know about the injury; is that 10:48AM  
6 correct? The economic definition of damages is the  
7 maximum amount someone is willing to pay to go from  
8 the resource conditions in the injured state to the  
9 resource conditions in the uninjured state.

10 Q If a person does not know about the resource 10:49AM  
11 condition in the injured state, why would that  
12 person be willing to pay anything to take the  
13 resource to the uninjured state?

14 A The definition -- I'm going to repeat myself  
15 here. The definition of injuries is how much 10:50AM  
16 someone indicates their maximum willingness to pay,  
17 and we don't measure maximum willingness to pay  
18 directly, we collect evidence about it, but a  
19 person's economic values are measured by a tradeoff.  
20 There's this set of conditions. It's possible to go 10:50AM  
21 to that set of conditions. Would you pay a hundred  
22 dollars; would you pay \$200. That is the economic  
23 definition of damages.

24 MR. DEIHL: Can you read back the question,  
25 please? 10:51AM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

40

1 (Whereupon, the court reporter read  
2 back the previous question.)

3 **A** I believe I answered the question twice.

4 **Q** Okay.

5 **A** I'm not saying you understood my answer, but I 10:51AM  
6 believe I adequately answered the question twice.

7 **Q** Yeah, I don't think you did answer the  
8 question, so maybe you can help me out and explain  
9 your answer a little bit.

10 **A** Okay. Could you be more explicit and tell me 10:51AM  
11 what about my answer you'd like me to elaborate on?

12 **Q** My answer was or my question was, why would  
13 someone be willing to pay to return a resource --

14 **MR. DEIHL:** Why don't you read back my  
15 question?

16 (Whereupon, the court reporter read  
17 back the previous question on Page 39, Lines  
18 10-13.)

19 **Q** I don't believe you answered that question,  
20 Dr. Morey. If you have, why don't you answer it 10:52AM  
21 again?

22 **A** For a second there I thought I had another way  
23 of saying it on the tip of my tongue. Let me see if  
24 I can resurrect what was on the tip of my tongue.  
25 You present someone with an alternative. You 10:53AM

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**EXHIBIT E**



**EDWARD MOREY, PhD, 4-29-09****41**

1 describe to the person a state of the world. As an  
2 economist, we believe that people can rank states of  
3 the world. I've been watching people do this for a  
4 long time, and they can tell you whether they prefer  
5 to live in World A or World B. So if you ask  
6 someone would you prefer to live in World A or B  
7 independent of what world they currently live in and  
8 they say I prefer to live in World B, that means  
9 they prefer to live in World B. They find  
10 themselves better off. If you then ask them would  
11 you pay \$200 to go from World A to World B and they  
12 answer yes, then their willingness to pay for the  
13 change in the environmental conditions is their  
14 lower bound on their willingness to pay for change  
15 in the environmental conditions.

10:53AM

10:54AM

10:54AM

16 **Q** When you are conducting a contingent valuation  
17 survey of the kind you conducted in this case, do  
18 you believe that it is important in describing World  
19 A to describe actual facts as to how the resource  
20 exists today?

10:55AM

21 **A** I think it's important to adequately describe  
22 the conditions from -- adequate from the  
23 respondent's perspective in a way consistent with  
24 the facts but does not necessarily include every  
25 fact as recommended by the NOAA panel.

10:55AM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

**42**

1       **Q**       And you say you have to describe the  
2       conditions from the respondent's perspective. What  
3       do you mean?

4       **A**       So that the respondent says or many  
5       respondents say, yes, I have enough information to       10:56AM  
6       make a decision.

7       **Q**       You need to adequately describe the condition  
8       of the resource as it currently exists?

9       **A**       You want to adequately describe -- let's back  
10      up here for a second. If someone -- if the general       10:56AM  
11      population is completely aware of current conditions  
12      so they have a lot of knowledge of current  
13      conditions, like if we're talking about his Diet  
14      Coke, and most of us know what a Diet Coke is and  
15      what it tastes like and what the can looks like and       10:57AM  
16      all that kind of stuff, then there would be no need  
17      to provide any additional information about the Diet  
18      Coke.

19      **Q**       Let's talk about the condition of the resource  
20      in this case, the condition of Tenkiller Lake and       10:57AM  
21      the Illinois River. In your comment that people  
22      will have to be educated about the injuries, and you  
23      told me that to educate people about the injuries,  
24      you wrote sections in the report describing those  
25      injuries; is that correct?       10:57AM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

**43**

1       **A**       Not necessarily me personally.

2       **Q**       I understand. The team?

3       **A**       The team described conditions.

4       **Q**       Is it important that the conditions that the  
5       team described in the report accurately reflect the       10:58AM  
6       condition of the resource as it exists today?

7       **A**       You want the representative individual to get  
8       an adequate characterization of the injured  
9       conditions of the resource.

10      **Q**       When you say you want the user to receive an       10:59AM  
11      or the respondent to receive an adequate  
12      characterization, what do you consider adequate?

13      **A**       If people, for example, in a focus group say  
14      to you, okay, you described the conditions but I  
15      don't really have a good picture of what you mean,       10:59AM  
16      and numerous people do that, then that would be a  
17      signal to the team, for example, that there wasn't  
18      enough information provided at least for some  
19      individuals.

20      **Q**       If you describe an injury that is greater than       11:00AM  
21      the actual injury to the resource, does that skew  
22      your results?

23      **A**       What -- by results, what do we explicitly  
24      mean?

25      **Q**       The willingness to pay number.       11:00AM

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**EXHIBIT E**



**EDWARD MOREY, PhD, 4-29-09**

45

1     **A**       Besides being bad at grammar, I don't know.

2     **Q**       Was it important to ask whether poultry  
3       farmers take adequate care?

4     **A**       Again, this is not the statement that -- I  
5       wrote the statement and have no idea at the moment       11:02AM  
6       what I meant by it.

7     **Q**       For purposes of developing the contingent  
8       valuation survey, did you need to know whether or  
9       not people thought poultry farmers were careful?

10    **A**       If I thought about it long enough, I might       11:03AM  
11       come up with some reason why it would be material,  
12       but I can't think of one at the moment.

13    **Q**       Take a look at the bottom of the page.  
14       There's a paragraph numbered No. 7.

15    **A**       Right.       11:03AM

16    **Q**       You write, if we ask Questions 32 and 33  
17       again, need to ask if everyone who has seen ads or  
18       news reports, not just those who have seen ads or  
19       news reports.

20       Let me turn this phone off. I apologize.       11:04AM  
21       What is the distinction you're making between ads  
22       and news reports?

23    **A**       Well, the first part of this sentence, if we  
24       ask Questions 32 and 33 again, I think it should say  
25       need to ask it of everyone who has seen ads or news       11:04AM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09****46**

1 reports, not just those who have seen ads or news  
2 reports, and that sentence doesn't make any sense to  
3 me at the moment. It just seems to say --

4 **Q** Doesn't make much sense to me either, Dr.  
5 Morey, but they're your notes, but my question was, 11:05AM  
6 was there a distinction in your mind or is there a  
7 distinction in your mind between ads and news  
8 reports?

9 **A** In my mind, an ad is something that someone  
10 has paid to have presented in the newspaper or on 11:05AM  
11 television, the radio. A news report is information  
12 that's provided by the news source, be it the  
13 newspaper, the television station, the radio. I'm  
14 not sure how -- I'm just answering how I would think  
15 of the distinction at the moment. 11:05AM

16 **Q** Did you expect that non-objective information,  
17 like ads or news reports, could affect respondents'  
18 decisions or responses?

19 **A** By responses, you mean their answers to the  
20 willingness to pay question? 11:06AM

21 **Q** Yes.

22 **A** What people see and hear affects their beliefs  
23 and perceptions, and that could influence how  
24 someone answers a willingness to pay question. I  
25 don't know that it did, but in theory, sure. 11:06AM

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**EDWARD MOREY, PhD, 4-29-09**

**47**

1     **Q**       Is that why you were asking the respondents in  
2       the telephone survey whether or not they had seen  
3       the ads and news reports?

4     **A**       As I said before, the intent was to find out  
5       what they had heard and in part what they remembered       11:07AM  
6       of it.

7     **Q**       Why did you want to find out what they had  
8       heard and what they remembered of it?

9     **A**       Could you read back my last answer?  
10               (Whereupon, the court reporter read       11:08AM  
11       back the previous answer.)

12    **A**       Yeah, but the one before it.  
13               (Whereupon, the court reporter read  
14       back the previous answer at Page 46, Lines 19-25.)

15    **A**       That would be my answer again.       11:08AM

16    **Q**       Okay. Were you involved in the creation of  
17       the survey documents for the telephone survey?

18    **A**       I was -- as a member of the team, I was  
19       involved in the discussions of what we would ask and  
20       how to word the questions.       11:09AM

21    **Q**       What steps did the team take to develop the  
22       telephone survey?

23    **A**       I'm sure we had some general discussion of the  
24       objectives of the survey. Probably a very general  
25       discussion that I was involved in about the sampling       11:10AM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

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1 plan, but Roger and Jon would have taken the lead on  
2 that. Roger Tourangeau and Jon Krosnick. Someone  
3 would have drafted a set of questions to achieve the  
4 goals. I don't recollect being the person who did  
5 the drafting.

11:10AM

6 **Q** Do you recall who did do the drafting?

7 **A** No. And then the questions would be, you  
8 know, vetted in front of the group and just, you  
9 know, discussed.

10 **Q** What survey administration protocols were used  
11 in the telephone survey?

11:11AM

12 **A** I don't have a professional opinion about  
13 protocols for telephone surveys in this case.

14 **Q** Who conducted the telephone survey?

15 **A** I'm not sure. I assume a researcher here in  
16 the state of Oklahoma.

11:11AM

17 **Q** Why did you not include the results of the  
18 telephone survey in the Stratus report?

19 **A** They were included in the additional  
20 materials.

11:12AM

21 **Q** I understand they were included in the  
22 additional materials. Why did you not include them  
23 in the report?

24 **A** I'm sorry, but I don't -- I don't have a  
25 reason for why you might want to include them. I

11:12AM

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**EXHIBIT E**



**EDWARD MOREY, PhD, 4-29-09**

**49**

1 think it's a piece of information that we collected  
2 that was important to turn over to you and we were  
3 legally required to turn it over to you, but it  
4 doesn't affect the results of the damage report.

5 Q Which members of the team worked on the 11:12AM  
6 telephone survey? You've mentioned Roger and Jon,  
7 yourself. Who else worked on the telephone survey  
8 with you?

9 A Roger, Jon, myself, David and Michael. Should  
10 I include their last names? 11:13AM

11 Q Just who was the last person?

12 A Michael Hanemann.

13 Q Okay. Thank you. Did you consider the  
14 results of the telephone survey in your development  
15 of the CV survey? 11:13AM

16 A We were all aware of the results of the  
17 telephone survey when we developed the different  
18 versions of the valuation survey.

19 Q Were you involved in any of the focus groups?

20 A Yes. 11:14AM

21 Q How many focus groups did you attend  
22 approximately?

23 A I didn't attend all of them. I attended a lot  
24 of them, maybe two-thirds of them. That would just  
25 be a guess. Quite a few. 11:15AM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

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1       **Q**       Okay. What was the purpose of the focus  
2 groups?

3       **A**       I mentioned one of the purposes earlier, and  
4 that's to see how people react to the presentation  
5 of materials. Did they want to know more? If you 11:15AM  
6 asked them, you know, describe back to me what did  
7 you hear, do they describe back to you what you  
8 meant to say or something different? So to get  
9 feedback from people about how they are interpreting  
10 your questions. That would be a primary purpose of 11:15AM  
11 focus groups.

12       **Q**       Any other purposes?

13       **A**       Again, to get more information about people's  
14 sense of conditions, to test and develop a mechanism  
15 to get you from State A to State B. 11:16AM

16       **Q**       What do you mean a mechanism to get you from  
17 State A to State B?

18       **A**       The valuation is done by presenting people  
19 with a tradeoff, getting from one set of resource  
20 conditions to another set of resource conditions. 11:16AM  
21 You present people with a program or a policy that  
22 those people -- the respondent feels is a way of  
23 getting from the one set of conditions to the other  
24 set of conditions. You say do you want to buy this  
25 program if it costs you this much money, and they 11:17AM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

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1 say yes or no.

2 Q Dr. Morey, I've handed you what's been marked  
3 as Deposition Exhibit No. 6, which is entitled  
4 thoughts, 3-28-2007. Do you have that in front of  
5 you?

11:18AM

6 A I do.

7 Q Can you tell me what this document is?

8 A Let me read it for a second. It's some  
9 thoughts I had early on in the process, probably  
10 about a focus group script.

11:19AM

11 Q You wrote, I thought we were going to mention  
12 a moratorium/injunction and note how expensive it  
13 would be for the chicken industry. Why was it  
14 important to mention a moratorium/injunction and how  
15 expensive it would be to the chicken industry?

11:19AM

16 MS. MOLL: Objection to form.

17 A I don't say here it's more important. I more  
18 say how I thought we were going to do this and we  
19 did that.

20 Q Why did you think that you were going to do  
21 that?

11:20AM

22 A Probably because the last conversation that I  
23 participated in before the focus group led me to  
24 believe that we were going to talk about a  
25 moratorium and injunction, and then when I saw the

11:20AM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

**52**

1 script, it wasn't there.

2 Q Why would you talk about a  
3 moratorium/injunction in the script?

4 A People who feel an injury has been caused by  
5 someone else, even if they have a willingness to pay 11:21AM  
6 for a change in the environment, sometimes feel it's  
7 not fair for them to have to pay, so they end up  
8 voting no, not because they have no willingness to  
9 pay but they vote no because, in this case, for  
10 example, they might want the poultry -- they might 11:22AM  
11 say we want the poultry industry to pay, and you  
12 want people to state their willingness to pay, not  
13 to allocate blame for who did it or who didn't do  
14 it.

15 Q At the bottom of the page is -- not at the 11:22AM  
16 bottom of the page. The third paragraph of the page  
17 you write about a tax for five years rather than one  
18 year. Was there a discussion about what type of tax  
19 you were going to use in the CV scenario?

20 A At this particular point in the process or a 11:23AM  
21 general discussion?

22 Q General discussion.

23 A Yes, there was a discussion of the tax  
24 instrument.

25 Q Describe that discussion to me. 11:23AM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

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1       **A**       We talked about the tax instrument on numerous  
2       occasions over a period of three years or something.  
3       I can't recreate for you what happened at every  
4       specific point in time. I can articulate what we  
5       concluded, which, I mean, you know, what we decided       11:24AM  
6       was the best thing to do.

7       **Q**       Why did you reach that conclusion?

8       **A**       We wanted to have an estimate that was both  
9       conservative and easy to understand.

10      **Q**       Okay, and you believed that having a one-year       11:24AM  
11      tax instead of a five-year tax would be more  
12      conservative?

13      **A**       I do.

14      **Q**       And you thought that would be easier to  
15      understand?       11:24AM

16      **A**       Yes.

17               MR. DEIHL: Why don't we take a tape  
18      change.

19               VIDEOGRAPHER: We are off the Record. The  
20      time is 11:24 a.m.       11:25AM

21               (Following a short recess at 11:24  
22      a.m., proceedings continued on the Record at 11:30  
23      a.m.)

24               VIDEOGRAPHER: We are back on the Record.  
25      The time is 11:30 a.m.       11:31AM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

**54**

1       **Q**       Dr. Morey, to your right is a deposition  
2       exhibit notebook from Dr. Tourangeau's deposition  
3       and in that notebook is a copy of the Stratus report  
4       Volume I --

5       **A**       Okay. 11:31AM

6       **Q**       -- for your reference. I'm not going to ask  
7       you a question about it right now, but I want you to  
8       know it's there.

9       **A**       Okay.

10      **Q**       Were you involved in developing the scope 11:31AM  
11      scenario that was used in the base survey?

12      **A**       Yes.

13      **Q**       Why does the scope scenario diverge from the  
14      base survey along multiple dimensions?

15               MS. MOLL: Objection to form. 11:31AM

16      **A**       I don't recollect at the moment exactly how it  
17      does or doesn't vary, so should we look at the --

18      **Q**       Sure. If that's helpful to you, go ahead.

19      **A**       This copy, I assume, has the table of  
20      contents? 11:32AM

21      **Q**       If you go -- I think it's Exhibit 6.

22      **A**       Gotcha. Actually I think the easier thing to  
23      do would be to look at the survey. That's in the  
24      next one and this is Volume II?

25      **Q**       I believe so. 11:33AM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

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1     **A**       You know, now that I've said that, is the -- I  
2     was turning to the section where the survey is laid  
3     out, but actually what we need to do is compare the  
4     two surveys side by side. Are they next to each  
5     other; do you know? 11:33AM

6     **Q**       No. It's your report, Dr. Morey. Maybe you  
7     can tell me.

8     **A**       I don't know where exactly.

9     **Q**       Okay. If you look at exhibit -- it's Appendix  
10    D of the main survey. 11:33AM

11    **A**       Appendix D, main survey?

12    **Q**       If you turn to Page 4-17 of Exhibit 6 --

13    **A**       4-17?

14    **Q**       Yeah. It actually starts out at 4-14. Then  
15    if you page through that, you can see the 11:34AM  
16    differences between the base and the scope.

17    **A**       Okay. Give me a second. Okay. I think I  
18    have the basic idea.

19    **Q**       Why does the scope survey diverge from the  
20    base survey along multiple dimensions? 11:36AM

21           MS. MOLL: Objection to form.

22    **A**       There's no reason that I can think of why it  
23    should only vary in one dimension.

24    **Q**       Did the base survey and scopes survey diverge  
25    in multiple dimensions since the beginning of the 11:37AM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

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1 project?

2 **A** I don't know; I don't remember.

3 **Q** Why did you decide that only the lake would  
4 receive the alum treatment in the scopes survey?

5 **A** In the base case, the -- in the absence of the 11:37AM  
6 alum treatment, the river improved -- I don't  
7 remember the exact number of years but it was, for  
8 example, it was, say, fifty years in the base --  
9 excuse me, fifty years without the alum treatment  
10 and some shorter number of years, ten or whatever it 11:38AM  
11 was, in the treatment program. So there was -- the  
12 alum treatment had an effect on the river in the  
13 base case. In the scope case it didn't have an  
14 effect on the river. The river cleansed itself or  
15 whatever the word is fairly quickly. So there was 11:38AM  
16 less injury to the river in the scope case than the  
17 base case.

18 **Q** Correct, and why did you decide to have less  
19 injury to the river?

20 **A** We decided to have less injury, and I would 11:39AM  
21 say a reason for having less injury to both the  
22 river and the lake is that some people might care  
23 only about the river and some people might care only  
24 about the lake.

25 **Q** You'd agree with me, wouldn't you, that it's 11:39AM

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**EXHIBIT E**



**EDWARD MOREY, PhD, 4-29-09**

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1 possible for the river and the lake to have

2 different environmental services or use values?

3 **A** The types of recreation that take place --

4 there's certain types of recreation that take place

5 both on rivers and lakes, and certain types of

11:40AM

6 recreation or use that's more likely to take on one

7 than the other.

8 **Q** So they could have different use values?

9 **A** Of course.

10 **Q** In the scopes survey, since the respondents

11:40AM

11 are only asked to bid on the alum treatment for the

12 lake and not the river, isn't it possible that the

13 environmental services being valued in the scope are

14 different from those being valued in the base

15 survey?

11:40AM

16 MS. MOLL: Objection to form.

17 **A** Could you read that back, please?

18 (Whereupon, the court reporter read

19 back the previous question.)

20 **A** The injuries are different in the two cases,

11:41AM

21 and the intent of the scope test is to see if people

22 are responsive to that difference. It's as simple

23 as that.

24 **Q** Aren't you valuing different environmental

25 services in the two cases?

11:41AM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

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1     **A**       In the one case you're valuing a change in  
2     both the lake and the river, and in the other case  
3     you're valuing a change in just the lake, if I  
4     remember the scenarios correctly, and --

5     **Q**       That's correct. 11:42AM

6     **A**       Yeah. I mean, isn't that what you are asking  
7     me?

8     **Q**       Uh-huh. So what you're valuing in the scopes  
9     survey is different from what you're valuing in the  
10    base survey; right? 11:42AM

11    **A**       Which is the intention of doing a scope  
12    test --

13    **Q**       Okay.

14    **A**       -- to measure different levels of injuries.

15    **Q**       The intent of a scope test is to measure 11:43AM  
16    different levels of injuries. Is it to measure  
17    different environmental services?

18               MS. MOLL: Objection to form.

19    **A**       It's -- okay. The first part, it's not to  
20    measure difference -- differences in environmental 11:43AM  
21    injuries. It's to measure to see how our lower  
22    bound estimate of willingness to pay might differ,  
23    whether it's -- whether it does differ or doesn't  
24    differ with scope with the extent of the injuries.

25    **Q**       So if the respondents are valuing a different 11:43AM

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**EDWARD MOREY, PhD, 4-29-09**

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1 set of environmental services in the scopes survey,  
2 i.e., they're only being asked to value treatment of  
3 the lake, would you say that the scopes survey can  
4 be used to confirm the willingness to pay estimated  
5 from the base survey?

11:44AM

6 **A** You're asking me what I believe is a  
7 theoretical question about the relationship, should  
8 there be a theoretical relationship between the two  
9 numbers?

10 **Q** What's the purpose of doing a scope survey?

11:44AM

11 **A** The NOAA guidelines suggest that it's a  
12 measure of -- I always confuse these two words -- --  
13 it's something recommended by the NOAA panel.

14 **Q** Isn't its purpose to affirm the willingness to  
15 pay estimates from the base survey?

11:45AM

16 **A** That's not my professional view of it, no.

17 **Q** What's your professional view of when to do a  
18 scopes survey?

19 **A** The NOAA panel recommends that you look, see  
20 if the estimate of damages varies with the scope of  
21 the injuries, and I think it's as simple as that.

11:45AM

22 **Q** So you're trying to measure if the estimate of  
23 damages varies with the scope of the injury;  
24 correct?

25 **A** Yes, or to see if it does. It's not you're

11:46AM

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**EDWARD MOREY, PhD, 4-29-09**

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1     trying to see that they're different. You know,  
2     you're just doing the test to see how it comes out.

3     **Q**     In addition to changing the injury between the  
4     scope test and the base survey, you also made the  
5     alum treatment on the lake less effective; isn't  
6     that right?

11:46AM

7     **A**     What you're getting for the alum treatment is  
8     less in the scope case than in the base case, less  
9     in the sense of how much accelerated -- how much  
10    return to no injury levels is accelerated.

11:47AM

11    **Q**     So you didn't just make the injury smaller in  
12    the scope test; you also changed the effectiveness  
13    of the treatment; right?

14    **A**     The injury is the difference between the  
15    resource conditions with -- the difference between  
16    the resource conditions with and without the injury.  
17    That has nothing to do with the scope or the base.  
18    That's the same in both of them. What's different  
19    is the amount of time you remain in the injured  
20    state in the two conditions. So it's reducing the

11:47AM

11:48AM

21    reduction in injury. You're getting less of a  
22    reduction in injury with the alum treatment in the  
23    scope case than you are in the base case.

24    **Q**     Right. You're getting less of a reduction in  
25    injury and you're also getting that lower reduction

11:48AM

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**EDWARD MOREY, PhD, 4-29-09****61**

1 in injury only on the lake as opposed to the lake  
2 and the river; correct?

3 **A** You're getting less -- let's be clear. I  
4 think I'm agreeing with you. You're getting no  
5 reduction in injury on the river. Another way of 11:49AM  
6 saying that is it doesn't matter if you put alum  
7 treatment on the river. It's going to improve in  
8 ten years either way. So there is less injury --  
9 the injury from the moratorium is less under the  
10 scopes scenario, I agree with that. 11:49AM

11 **Q** Based on your understanding of the literature,  
12 have you satisfied the requirement for avoiding  
13 confounding effects?

14 **A** I, off the top of my head, don't know what  
15 that means. Confounding effects, is that a term in 11:50AM  
16 the NOAA guidelines?

17 **Q** You don't know what that means?

18 **A** It could mean a lot of different things in a  
19 lot of different contexts, so, no, I don't know what  
20 you mean in this context. 11:50AM

21 **Q** Okay. How did you determine the sample size  
22 for the base and scope surveys?

23 **A** I did not determine the sample sizes for the  
24 base and the scopes surveys.

25 **Q** Who was responsible for that? 11:50AM

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**EDWARD MOREY, PhD, 4-29-09**

**63**

1 Kanninen, myself and for certain things Jon

2 Krosnick.

3 Q Did you ever -- strike that. Did the team  
4 ever make any adjustments due to the difference in  
5 sample size?

11:53AM

6 A The difference in sample size between what and  
7 what?

8 Q Between the base survey and the scopes survey.

9 A I'm sorry, again, but I'm really not sure what  
10 you mean by adjustments in the sample sizes where --  
11 the sample sizes.

11:54AM

12 Q Did you make any adjustments in your  
13 estimation of willingness to pay to account for the  
14 difference in sample size between the base survey  
15 and the scopes survey?

11:54AM

16 A Our estimate of willingness to pay in the base  
17 scenario is based on using all base scenario data,  
18 and our estimate for the lower bound on willingness  
19 to pay in the scope case is based on using all of  
20 the scope data.

11:54AM

21 Q So you didn't make any adjustments in the  
22 willingness to pay number for the base survey due to  
23 the difference in sample size between the base and  
24 the scope?

25 A The estimate that we have for the lower bound

11:55AM

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**EDWARD MOREY, PhD, 4-29-09****64**

1 on willingness to pay from the base scenario is a  
2 best estimate given our data and the amount of data  
3 we have for the base scenario, and the same is true  
4 for the scopes scenario. So there's nothing any  
5 sort of -- I don't know what you mean by an  
6 adjustment, but any adjustment would make the  
7 estimate not the best estimate.

11:55AM

8 **Q** Take a look at Page 6-31 in the exhibit in  
9 front of you.

10 **A** Okay. The page with the figure?

11:56AM

11 **Q** Yes.

12 **A** Okay.

13 **Q** That page has Figure 6.2 on it; correct?

14 **A** It says Figure 6.2, comparison of percentage  
15 voting for in base and scope votes. Okay.

11:56AM

16 **Q** And look at the confidence intervals at the  
17 405 bid level, if you would.

18 **A** Yes, I'm looking.

19 **Q** It looks like the confidence intervals for the  
20 base and scope data are overlapping at the 405 bid  
21 number. Is that what it appears to you?

11:56AM

22 **A** Yeah. If the table is created correctly, they  
23 appear to be -- I'm trying to figure out which are  
24 the end points here. Let me just -- okay. So the  
25 squares are the scope and the diamonds are -- okay.

11:57AM

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**EDWARD MOREY, PhD, 4-29-09**

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1 So trying to decide which line goes with which. The  
2 bottom cross line goes with the lower one, and then  
3 we're assuming for the moment that the top of it is  
4 right above the diamond, is that right, for the  
5 lower one and then the other one is the top line  
6 going down to the line right above the square?

11:57AM

7 Q Right.

8 A Yeah. The way it's drawn, they appear to be  
9 overlapping.

10 Q Is that what you would typically expect?

11:58AM

11 MS. MOLL: Objection to form.

12 A There's -- there's no theoretical difference  
13 why they have to be different.

14 Q So that is what you'd typically expect?

15 A I -- as the statistician, econometrician, I  
16 don't -- I'm saying theory doesn't give me an  
17 expectation or tell me what I should expect in this  
18 case. The data is what the data is.

11:58AM

19 Q In your experience, is it typical to have  
20 overlapping base and scope -- overlapping confidence  
21 intervals for base and scope surveys?

11:59AM

22 A I don't -- I don't understand what you're  
23 making of the fact that they overlap.

24 Q Doesn't the NOAA panel state that the  
25 willingness to pay for the scope should show an

12:00PM

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1 adequate response to the change in scenario?

2 **A** There is a test, a proper test of this  
3 somewhere in this report that shows that the  
4 probabilities, as a group, do vary significantly  
5 across the two treatments. That would be the  
6 appropriate statistical test, and we'd have to find  
7 the test, but it's reported somewhere in here.

12:00PM

8 **Q** Yeah. Where is the test in the report?

9 **A** Okay. If we go to the previous page, and I'm  
10 going have to read it, so I'll read it out loud.

12:01PM

11 Table 6.27 compares the votes for the base and  
12 scopes scenarios. At each cost level, respondents  
13 who received the scopes scenario were less likely to  
14 vote for the program than respondents who received  
15 the base scenario. See also Figure 6.2. That's not  
16 the test. Overall, this relationship was

12:01PM

17 statistically significant. So overall, looking at  
18 all the levels, there's a significant difference. A  
19 Logit regression predicting voting choice based on a  
20 binary variable contrasting with the base response  
21 with a scope response, so estimating the probability  
22 that you vote yes where a determining factor is  
23 whether it's the base case or the scope case is a  
24 significant coefficient in the expected direction.

12:01PM

25 Then finally it says, an F test that corresponds to

12:02PM

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**EDWARD MOREY, PhD, 4-29-09****67**

1 one performed on the base data does not reject --  
2 that's talking about the cost. Okay. So does that  
3 answer your question?

4 **Q** It does answer my question.

5 **A** Okay, good. 12:02PM

6 **Q** And in your opinion this statement complies  
7 with the NOAA panel's guideline that the scope  
8 should show an adequate response to the change in  
9 scenario?

10 **A** I don't remember the NOAA panel using the word 12:02PM  
11 adequate. We could look at the guidelines and see  
12 exactly what word they used.

13 **Q** That's okay. We don't need to look at the  
14 guidelines. You don't recall the NOAA panel using  
15 the word adequate? 12:03PM

16 **A** Yeah, I don't. I'm not saying they do or  
17 don't. I don't recall that word being used.

18 **Q** Would you consider the description you just  
19 read me to show an adequate response to a change in  
20 the scenario? 12:03PM

21 **A** One can statistically reject the null  
22 hypothesis that they're responding the same to the  
23 scope and to the base on a one-sided test in the  
24 direction that you would expect to see. That is the  
25 appropriate statistical test of are the two 12:04PM

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1 different. Do I need to keep this open?

2 Q You don't right now. We'll probably go back  
3 to it. Dr. Morey, I've handed you what's been  
4 marked as Exhibit 7.

5 A Okay. 12:04PM

6 Q Which is a document that came out of your  
7 considered by materials, and it was labeled August  
8 17th, 2008, theory underlying damage estimation and  
9 scope test. Are you familiar with this document?

10 A Are we looking at the -- I'm sorry, was this 12:05PM  
11 titled theory?

12 Q That isn't titled anything, but the document  
13 as it was provided to us in the computer, that was  
14 the label that was attached to it.

15 A Okay. 12:05PM

16 Q Have you seen this document before?

17 A It looks like some documents that were  
18 produced by Megan Lawson under my direction and the  
19 direction of David Chapman.

20 Q What does the first page of Exhibit 7 depict? 12:06PM

21 A It is reporting estimates of the -- for two  
22 datasets combined and then it's reporting estimates  
23 for each of them separately.

24 Q Okay. What are the two datasets that it's  
25 reporting? 12:07PM

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1     **A**       What was the date on this? This was August?

2     **Q**       The date is August 17th, 2008.

3     **A**       This is right after I got back from being out  
4     of the country for approximately a month -- well,  
5     six weeks, two months, something like that, and  
6     while I was gone --

12:07PM

7     **Q**       You know, Dr. Morey, before you proceed, I  
8     actually misstated. The date of this is September  
9     18th, 2008. I apologize.

10    **A**       Okay. No problem. While I was out of the  
11    country or right after I got back, there was a Focus  
12    Group 14. I believe that that's what the team often  
13    refers to as the hotel data, where a number of  
14    people were brought into large rooms in hotels and  
15    took the surveys as a group, not speaking to one  
16    another but they were all sitting next to one  
17    another, and the pilot was a test of the base survey  
18    instrument before the pretest. I don't remember  
19    exactly how many people were in each of those  
20    groups.

12:07PM

12:08PM

12:08PM

21    **Q**       Did you participate in Focus Group 14?

22    **A**       I don't remember being in the hotel setting,  
23    and it's right around when I was coming back, so I  
24    think not.

25    **Q**       Okay. Turning to the second page of Exhibit

12:09PM

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1 7, can you tell me what this page depicts?

2 **A** Okay. So the data that came in from Pilot 2  
3 must have been data that was just on the main, the  
4 main scenario. Where Focus Group 14, some people in  
5 that hotel setting must have got the main scenario  
6 and must have gotten the scopes scenario. So this  
7 is combining all of the data from those two tests  
8 having to do with the main.

12:10PM

9 **Q** It indicates at the top that it's labeled  
10 Turnbull estimates. Do you see that?

12:10PM

11 **A** Yes.

12 **Q** What is a Turnbull estimate?

13 **A** It's a technique to estimate the lowest  
14 possible estimate of willingness to pay that's  
15 consistent with the data collected.

12:11PM

16 **Q** Is the Turnbull estimate a non-parametric  
17 estimator?

18 **A** Yes.

19 **Q** When I refer to Turnbull estimator, do you  
20 know -- if I were to ask you to do an estimation  
21 using the Turnbull method, what would you do?

12:11PM

22 **A** So you want me to walk you through the  
23 estimation technique?

24 **Q** I want to understand how you would go about  
25 doing a Turnbull estimate.

12:12PM

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1       **A**       And for the Record, let me just say that  
2       Turnbull is probably not the best name for it, and  
3       we changed the name of it as we went along to make  
4       the name more appropriate. So let me describe the  
5       technique to you.

12:12PM

6               The technique has two components. The one  
7       component is to get the best estimate of how many  
8       people would vote yes at every one of the bid  
9       amounts, and the standard procedure for that is you  
10      want to get the maximum likelihood estimates at the  
11      different bid amounts. You do that without imposing  
12      any assumptions on what the curves look like between  
13      those points. So you're not estimating the whole  
14      curve. In this case it's called a survival  
15      function. You're just estimating the points.

12:13PM

12:13PM

16             Then the second step is given those points  
17      estimates, you say what is the most conservative  
18      estimate of the average based on those points.

19      **Q**       Okay. Anything else?

20      **A**       We could work through a numerical example, but  
21      I think, no.

12:14PM

22      **Q**       You said that Turnbull is not the best name  
23      for it. What did you mean by that?

24      **A**       The essence of what we're doing is, in terms  
25      of the maximum likelihood estimates, it's laid out

12:14PM

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1 in the ABERS paper, and the acronym for the authors  
2 of those papers is A-B-E-R-S, so to give credit  
3 where credit is due.

4 Q So you would call the methodology that you  
5 used in this Exhibit 7 the Turnbull methodology or 12:15PM  
6 the ABERS, A-B-E-R-S, methodology; they're  
7 synonymous in your mind?

8 A I did not check Megan's code when she produced  
9 this estimate. So I can't testify to whether -- how  
10 exactly she coded this, but our intent from the very 12:15PM  
11 beginning was to always use the same estimator, and  
12 I've spoken to both David and to Barbara numerous  
13 times, and we all understand what the estimator is,  
14 and they both assure me that it was coded correctly.

15 Q But you didn't review the code? 12:16PM

16 A No.

17 Q Did you produce the code as part of your  
18 considered by materials?

19 A I've never had the code.

20 Q Okay. Certainly someone at Stratus had the 12:16PM  
21 code?

22 A Yes.

23 Q For purposes of discussion, since this  
24 document is labeled Turnbull estimates, I'm going to  
25 use that term to describe what you did in that 12:16PM

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1 document, this document. Is that fair?

2 **A** Yeah. As long as if I use the word Turnbull,  
3 it means the ABERS estimate.

4 **Q** Okay.

5 **A** Okay. 12:16PM

6 **Q** Can you describe the re-weighting procedure  
7 using the Turnbull estimates in the case where there  
8 are two violating yes proportions along the bid  
9 schedules?

10 **A** I think I know what you mean but I'm not sure. 12:17PM  
11 Two violating yes --

12 **Q** I.e., the distribution is non-monotonic.

13 **A** If your sample does not exhibit weak  
14 monotonicity, and there's no reason that one would  
15 expect your sample to always show weak 12:17PM

16 non-monotonicity, then as part of this estimator,  
17 there is a method to come up with the maximum  
18 likelihood estimates at both of the points we're  
19 talking about. So, for example, here I think --

20 well, in terms of the final report that's probably 12:18PM

21 at what, \$80 and 125, I don't remember which of the  
22 two are, and the maximum likely estimator, given  
23 that constraint, is simply a weighted average of the  
24 two proportions. So those are the best estimates

25 at, for example, 80 and 125, given the imposition of 12:18PM

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1 weak monotonicity.

2 Q And so you weighted the average between the 80  
3 and 125 in estimating?

4 A Yeah. I forget whether it's a simple average  
5 or a weighted average, but in the final dataset, you 12:18PM  
6 know, one of the numbers was like 62. I don't  
7 remember the exact numbers. One was like 62 and one  
8 was like 61, and the average is 61 point something.

9 Q Going back to Exhibit 7, please, if you --

10 A The first page of 7 or the second page? 12:19PM

11 Q Well, I'm going to go to the fifth page of  
12 Deposition Exhibit No. 7, and, again, it's your  
13 testimony here today that the term Turnbull  
14 estimator is synonymous with ABERS estimator?

15 A Under certain conditions that are here. 12:19PM  
16 They're not always, but under these conditions,  
17 under -- given the type of data we have, that's my  
18 opinion, yes.

19 Q I have seen documents in reviewing your  
20 considered by materials in this case that refer to 12:20PM  
21 -- I think you call it the ABERS estimator.

22 A Yes.

23 Q And I've seen like a document like this that  
24 refers to the Turnbull estimator. If I was to take  
25 the raw data and run it through those two estimators 12:20PM

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1 or run it through the program, I would end up with  
2 the same result; correct?

3 **A** I would hope, unless someone made a coding  
4 error.

5 **Q** Okay, and how would we determine whether or 12:20PM  
6 not someone made a coding error?

7 **A** All of our final results and the coding of  
8 them was checked by multiple members of the team or  
9 the Stratus staff.

10 **Q** Okay. 12:21PM

11 **A** That's how we checked.

12 **Q** Okay. When you say it was checked by multiple  
13 members, how did you go about doing that?

14 **A** Since I wasn't the checker or responsible for  
15 the checking, I can just tell you what was reported 12:21PM  
16 to me.

17 **Q** Who did the checking?

18 **A** The estimates were produced by -- the final  
19 estimates were produced by Barbara, coded by  
20 Barbara. I don't know whether they were also 12:21PM  
21 produced and checked by Megan. Might have been or  
22 might not have been. They were checked by another  
23 person who works at Stratus, and I believe they were  
24 also checked by Mike Silver.

25 **Q** Who is Mike Silver? 12:22PM

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1     **A**       I don't personally know Mike Silver. Mike  
2     Silver is someone who works with Jon Krosnick.

3     **Q**       Take a look at the page in front of you, which  
4     is Page 5 in Exhibit 7.

5     **A**       Okay. 12:22PM

6     **Q**       And I'd like you to look at the note in  
7     between these two tables where it's labeled  
8     unrestricted median and then it says doesn't exist  
9     without a monotonically decreasing set of yes votes  
10    as bid increases. Do you know what that means? 12:23PM

11    **A**       I'm sorry, I got spaced out for a second.  
12    Where's the sentence?

13    **Q**       The note is right there.

14    **A**       Okay. Thank you. If you have a  
15    non-monotonicity and you just take the raw 12:23PM

16    percentages and you are looking for the point, the  
17    median is the point where 50 percent have a  
18    willingness to pay less and 50 percent have a  
19    willingness to pay more, which I should add is not  
20    the accepted measure of damages, but that's what the 12:24PM

21    median is. So if things are monotonic, the lower  
22    bound estimate of the median is the highest --  
23    excuse me, the lowest number before you fall below  
24    50 percent. If you have two points between that,  
25    and one is like 49 and the other is 51, then you 12:24PM

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1 can't identify where the median is.

2 Q So if you have a non-monotonic set of votes,  
3 you can't determine where the median is for those  
4 numbers?

5 A It depends on where the non-monotonicity is. 12:25PM  
6 If it's bounding the 50 percent, then, yes.

7 Q Do you have any explanation why the yes votes  
8 were not monotonically decreasing as the bid  
9 increases in this case?

10 A The -- we're sampling here from the 12:25PM  
11 population, and if we could look at the population,  
12 i.e., we could look at every individual in the  
13 population and we could look at how they would vote  
14 at every price, which is not something we can do,  
15 then we would see a monotonic relationship. 12:26PM

16 When you sample, the people who are getting  
17 the 25 bid point, for example, are a subsample of  
18 the population that's different. They're different  
19 people than the people who get the other number, and  
20 so there's no reason, because of sampling variation, 12:27PM  
21 that it can't go in the non-monotonic direction.

22 It's -- yeah, I mean that's --

23 Q Do you know if the final base data exhibited  
24 this same non-monotonic behavior?

25 A The ABERS estimator -- I testified to this a 12:27PM

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1 minute ago in an earlier question. We can look at  
2 the raw bid amounts, but my recollection is that the  
3 monotonicity restriction was imposed at between two  
4 bids amount. I believe it was 80 and 125.

5 Q When you say the monoto -- mono -- I can't say 12:28PM  
6 that word -- the monotonic restriction was imposed,  
7 what does that mean? Explain that to me.

8 A We wanted to come up with the maximum  
9 likelihood estimates of the proportion of people  
10 voting yes at each bid amount with the restriction 12:28PM  
11 imposed that the proportion at a higher bid amount  
12 could not be higher than the proportion at a lower  
13 bid amount. That happened at one point in the bid  
14 range. The ABERS estimator explains and derives  
15 what the maximum likelihood estimator is in that 12:29PM  
16 case, and the answer, put simply, maybe a little  
17 too simply -- well, no. Put simply is just that  
18 basically it's a weighted average of the two  
19 proportions.

20 Q Thank you. I think we need another tape 12:29PM  
21 change.

22 VIDEOGRAPHER: We are off the Record. The  
23 time is 12:28 p.m.

24 (Following a lunch recess at 12:28  
25 p.m., proceedings continued on the Record at 1:47

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1 p.m.)

2 VIDEOGRAPHER: We are back on the Record.

3 The time is 1:47 p.m.

4 **A** Could I correct something from this morning?

5 **Q** Okay. 01:49PM

6 **A** I mentioned the name Mike Silver and I'm not  
7 sure it was Mike Silver. There's another gentleman  
8 by the name of Craig Moan who sometimes does these  
9 things, and it might have been Craig, not Mike.

10 **Q** What role did Mike Silver play. 01:49PM

11 **A** In?

12 **Q** In the work that Stratus was doing, in  
13 connection with the work that Stratus was doing.

14 **A** Mike I believe -- I've never directly worked  
15 with Mike. I believe Mike did some work with Jon 01:49PM  
16 Krosnick to do some surveys, some literature  
17 surveys. I believe there is a document in the  
18 supplemental materials.

19 **Q** Okay. You indicated earlier in response to  
20 one of my questions that you, along with David 01:50PM  
21 Chapman, Barbara Kanninen, oversaw a manipulation of  
22 the raw data. Do you recall that testimony?

23 **A** I don't remember the exact words. I -- go  
24 ahead.

25 **Q** You did oversee manipulation of some of the 01:50PM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

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1 raw data; correct?

2 **A** I discussed estimation techniques with people.  
3 I asked to see -- have certain statistics calculated  
4 and put in table form. I did not -- I was not  
5 involved in the processing of the raw data. 01:51PM

6 **Q** With whom did you discuss estimation  
7 techniques?

8 **A** I would discuss -- well, there's really very  
9 few estimation techniques -- the generation of the  
10 ABERS estimator with the team. 01:51PM

11 **Q** Okay. So you discussed the generation of the  
12 ABERS estimator with the team?

13 **A** There was discussion of the generation of the  
14 ABERS estimator with the team.

15 **Q** And when you say discussion of the generation 01:51PM  
16 of the ABERS estimator, are you talking about the  
17 writing of the code based on the ABERS estimator?

18 **A** I never had a discussion with anyone about how  
19 the code should be written.

20 **Q** Okay. When you discussed generation of the 01:52PM  
21 ABERS estimator, what does that mean?

22 **A** It means we all agree that this is the  
23 appropriate formula.

24 **Q** What does the word generation mean, Dr. Morey?

25 **A** When I say the generation of the ABERS 01:52PM

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**EDWARD MOREY, PhD, 4-29-09****81**

1 estimator, I mean just writing down the mathematical  
2 steps that are included in deriving this number or  
3 calculating the number, like do this first, do this,  
4 do this, do this.

5 **Q** And did you write down the mathematical steps 01:52PM  
6 that were used in calculating the estimator?

7 **A** The -- I recollect conversations with both  
8 Megan Lawson and Barbara Kanninen where we would go  
9 through and say, okay, let's make sure we all agree  
10 and this is how you do it, and I would say step one 01:53PM  
11 or something, and everyone would agree or they'd say  
12 are you sure. You know, we would walk our way  
13 through it, but I don't remember explicitly handing  
14 a piece of paper to someone saying these are the  
15 steps. 01:53PM

16 **Q** Okay. You indicated that you asked someone to  
17 have certain tables created; is that correct?

18 **A** Yes.

19 **Q** Who did you supervise in the creation of those  
20 tables? 01:53PM

21 **A** I would ask -- sometimes I would ask Megan  
22 Lawson to create certain tables. More generally  
23 Barbara Kanninen and I would discuss which tables we  
24 wanted, what summary statistics we wanted generated,  
25 and then I would leave it up to Barbara to either do 01:54PM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

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1 it or do it with the help of Megan.

2 Q Why was Barbara Kanninen brought on to the  
3 team in August of 2008?

4 A Because she has expertise in the bid design.

5 Q Did you have any involvement in the bid 01:55PM  
6 design?

7 A I was involved and present at most of the team  
8 discussions about the bid design.

9 Q Between you and Barbara Kanninen, how did you  
10 divide up the work concerning how you manipulated 01:55PM  
11 the raw data?

12 A I did none of the calculations or programming.  
13 We, along with other members of the team, would  
14 discuss how to present the data, and then Barbara  
15 would, with help and sometimes without help, 01:56PM  
16 sometimes implement and have the tables produced.  
17 Sometimes she wouldn't produce the tables herself,  
18 but she would produce the numbers and then someone  
19 else in production would put them in table form.

20 Q Prior to lunch, we were looking at Deposition 01:56PM  
21 Exhibit No. 7 and we were looking at the fifth page  
22 of that exhibit. You still have that in front of  
23 you; correct?

24 A That one?

25 Q Yes. That's the right page. Take a look at 01:56PM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09****83**

1 the note on the right-hand side of that page. It  
2 says estimated willingness to pay is highly  
3 sensitive to percentage voting yes at \$375; do you  
4 see that?

5 **A** I do.

01:57PM

6 **Q** What does that mean?

7 **A** It simply means that if you increased that  
8 number or decreased that number, the estimated  
9 expected willingness to pay the lower bound estimate  
10 would move.

01:57PM

11 **Q** It wouldn't only move, it would be highly  
12 sensitive to whether you moved that number; correct?

13 **A** In -- yeah, I'm not sure whether I wrote this  
14 sentence or someone else wrote this sentence in  
15 here. I'm not exactly sure what highly sensitive  
16 means, but the number changes, yes.

01:58PM

17 **Q** And when this says that the number changes or  
18 when this says that estimated willingness to pay is  
19 highly sensitive to the percentage voting yes at  
20 375, is that referring to calculations using the  
21 estimator that you used in this exhibit?

01:58PM

22 **A** Since it's next to the box of unrestricted  
23 estimator, I assume it refers to that table of  
24 numbers.

25 **Q** What does -- what is the difference between

01:59PM

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**EDWARD MOREY, PhD, 4-29-09**

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1 were determined in consultation with Barbara.

2 Q And it's your testimony that Barbara suggested  
3 the \$405 top bid amount?

4 A My recollection is she suggested a number in  
5 the neighborhood of \$400.

02:02PM

6 Q Dr. Morey, I've handed you a document, which  
7 is labeled Deposition Exhibit No. 8 entitled at the  
8 top, Theory Underlying Damage Estimation and Scope  
9 Test. Do you have that in front of you?

10 A I do.

02:04PM

11 Q And this is a document that was dated in the  
12 computer of August 17th, 2008.

13 A Okay.

14 Q Who drafted this document; do you know? Dr.  
15 Morey, do you need a moment to review the document?

02:06PM

16 A I'll be ready in a minute.

17 Q Okay.

18 A I should have asked.

19 Q Okay.

20 A I'm not sure.

02:06PM

21 Q Do you know what this document is?

22 A I would have to sit down for a while and read  
23 it very carefully and see if I could figure it out  
24 and what all the notations meant.

25 Q Have you seen this document before today; do

02:07PM

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**EDWARD MOREY, PhD, 4-29-09**

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1 you know?

2 **A** I'm not sure.

3 **Q** Okay. Dr. Morey, I've handed you what's been  
4 marked as Deposition Exhibit No. 9.

5 **A** Okay. 02:08PM

6 **Q** This was a document that appeared in your  
7 considered by materials. Can you identify this  
8 document?

9 **A** I'm sorry, what was the date?

10 **Q** The date of this document is September 11th, 02:08PM  
11 2008.

12 **A** Thank you. I think it was a document produced  
13 by Megan Lawson, and I believe it's results from  
14 some different Logit models, probably Logit or  
15 Probit models, the probability of voting yes as a 02:09PM  
16 function of the bid amount and some different  
17 characteristics of the individual. Exactly what  
18 dataset it applies to, I'm not sure, but it's  
19 probably not the final dataset given the date.

20 **Q** Okay. Did Megan Lawson prepare this Excel 02:10PM  
21 spreadsheet at your direction?

22 **A** I gave her some general guidelines to -- a  
23 suggestion to estimate some simple Logit models with  
24 different variables and see what happens.

25 **Q** Take a look at the second page of this 02:10PM

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**EDWARD MOREY, PhD, 4-29-09**

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1 exhibit, please.

2 **A** Okay.

3 **Q** It's the page labeled Marginal Effect on  
4 Willingness to Pay For, quote, Difficult to Pay  
5 Respondents. Do you see that?

02:11PM

6 **A** Yes.

7 **Q** Can you tell me what this page represents?

8 **A** Give me a minute to --

9 MR. DEIHL: Why don't we go off the Record  
10 for a moment to give Dr. Morey a moment to review  
11 this exhibit.

02:11PM

12 VIDEOGRAPHER: We are now off the Record.  
13 The time is 2:10 p.m.

14 (Whereupon, a discussion was held off  
15 the Record.)

02:12PM

16 VIDEOGRAPHER: We are back on the Record.  
17 It is 2:11 p.m.

18 **A** I don't know.

19 **Q** You don't know what this document represents?

20 **A** I don't know what these numbers -- how to  
21 interpret these numbers from this page.

02:13PM

22 **Q** Do you know who labeled this page Marginal  
23 Effect on Willingness to Pay For Difficult to Pay  
24 Respondents?

25 **A** I believe that Barbara did -- not Barbara.

02:13PM

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**EDWARD MOREY, PhD, 4-29-09**

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1 Megan Lawson did.

2 Q I notice that there are a number of negative  
3 willingness to pay numbers on this page. What does  
4 that mean for purposes of your analysis?

5 A That's a question I can't really answer since 02:13PM  
6 I've just said I'm not really sure what these  
7 numbers mean. So in general I don't know what these  
8 numbers represent. And whether they are positive or  
9 negative, I can't really tell you whether that's  
10 meaningful or not. 02:14PM

11 Q Why did you ask Megan Lawson to run these  
12 spreadsheets for you?

13 A I asked her to run some Logit models or Probit  
14 model on the probability of saying yes to start  
15 setting up a procedure for doing that with the idea 02:14PM  
16 at the end of the day to produce a construct  
17 validity model for inclusion in the final report, to  
18 start the process of generating the coding to  
19 generate a construct validity Logit model.

20 Q So the preparation of this document was in 02:15PM  
21 anticipation of preparing the construct validity  
22 model in the final report?

23 A That's my recollection. We knew that we  
24 wouldn't have the final data for the report until  
25 ten or eleven days before the report was due. So we 02:15PM

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**EDWARD MOREY, PhD, 4-29-09****89**

1 wanted to have any software or coding issues all  
2 worked out, and this was very early in that process.

3 **Q** In a construct validity model, what does it  
4 mean when the model generates a negative willingness  
5 to pay number? 02:16PM

6 **A** Well, the construct validity model doesn't  
7 generate a willingness to pay number. What's meant  
8 here by the marginal effect on willingness to pay,  
9 how to interpret these numbers, I don't know as I  
10 testified, and how these numbers on the first page 02:16PM  
11 were used to produce these numbers on the second  
12 page, I'm not sure of that either. A negative  
13 willingness to pay number -- a marginal willingness  
14 to pay number would be negative. For example, if  
15 the main -- if in the same model you were doing main 02:17PM  
16 and scope, right, and depending on how you coded the  
17 model, there was one estimate that was the estimate  
18 of willingness to pay for the main model, and then  
19 the estimate of willingness to pay, the thing was  
20 coded so that it would be the first number plus the 02:17PM  
21 second number. If there was a scope effect, then  
22 that second number, the effect of making it the  
23 scope rather than the main, that, for example, and I  
24 don't know that that's the case here, but that would  
25 be an example where the number would be negative. 02:18PM

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**EDWARD MOREY, PhD, 4-29-09**

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1 So to get the total number for the scope number,  
2 you'd take the total number and you'd add to it this  
3 negative number, i.e., you'd subtract.

4 Q You don't know whether or not that was what  
5 was going on here? 02:18PM

6 A I do not know whether that --

7 Q Take a look at the third page of this exhibit.  
8 Can you tell me what the third page is?

9 A It looks like the description of a list of  
10 variables in a spreadsheet with the letters 02:19PM  
11 indicating probably columns and Megan's description  
12 of what the variable in the column is. That's my  
13 conjecture, and then in the right-hand side, the  
14 different numbers, the coding numbers, so a crude  
15 code book. 02:19PM

16 Q On the first page, which is a page in the  
17 computer that was labeled regression results --

18 A Okay.

19 Q -- both age and education are significant in  
20 most estimates; isn't that correct? 02:19PM

21 A Looking at the first page here, I see she has  
22 age starred in most of these models, and the way  
23 it's coded here is it appears to be a one if you've  
24 got a high school education or less and a zero  
25 otherwise. So that would suggest for this dataset 02:20PM

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**EDWARD MOREY, PhD, 4-29-09****91**

1 -- what it's saying is that people with high school  
2 or less have a higher propensity to say yes than  
3 other education levels.

4 **Q** What about with respect to age?

5 **A** I want to make sure I'm looking at the right 02:20PM  
6 column here. Age appears to be coded such that it's  
7 a one if you're less than 30, so young adult, and  
8 zero otherwise. Some of the models are suggesting  
9 that being young increases the propensity and some  
10 of the models are suggesting that being young 02:21PM  
11 decreases the probability.

12 **Q** Show me what you are looking at.

13 **A** I'm looking at the -- if I'm lining up  
14 these -- let me use something to make sure I've got  
15 it lined up correctly. So I'm going across the row 02:21PM  
16 here and I see a .736 with two stars. Do you see  
17 that?

18 **Q** I do.

19 **A** Okay. So she's got the stars on there  
20 indicating that it's a positive number, and in this 02:22PM  
21 model it's significantly different from zero, and  
22 then in the next model, it's a similar number and  
23 also significant. In the next model, it's a similar  
24 number but it's no longer significantly different  
25 from zero, and then in the next three models, it 02:22PM

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**EDWARD MOREY, PhD, 4-29-09****92**

1 becomes a negative number and that's significantly  
2 different from zero.

3 Q Okay. You said this model or this Logit model  
4 was run at your direction by Megan Lawson so that  
5 you could start preparing for the final report;  
6 correct?

02:23PM

7 A For the possibility that we might want to  
8 include, for example, a construct validity Logit  
9 model in the final results.

10 Q Why did you exclude in the final results age  
11 and education in the construct validity model?

02:23PM

12 A Well, let's look at the --

13 Q Okay.

14 A I just want to make sure I get the right one  
15 there. Two Logit models, if I remember correctly in  
16 Chapter 6, and the difference between the two models  
17 I believe is the inclusion of a certainty question.  
18 So the one model is on Page 6-29 and the second  
19 model is on Page 6-36, and your question is why did  
20 we exclude --

02:24PM

02:25PM

21 Q Age and education.

22 A Age and education. My recollection is both of  
23 these models, the one -- the voter adjustment model  
24 and the construct validity model, the final  
25 specifications of those models was chosen and

02:26PM

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**EDWARD MOREY, PhD, 4-29-09**

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1 estimated by Jon Krosnick, so you would have to ask  
2 Jon Krosnick.

3 Q Okay. Do you recall that your final survey  
4 had bid amounts of \$10, \$45, \$80, \$125, \$205 and  
5 \$405; correct?

02:26PM

6 A Yes. I think earlier I might have suggested  
7 or guessed that one of them was 125, but I think  
8 that was wrong, a wrong guess. So I'm just -- I  
9 believe it's right at the beginning of Chapter 6.

10 Yes. \$10, 45, 80, 125, 205 and 405.

02:27PM

11 Q If instead you had used a bid structure where  
12 the top number was \$205 instead of \$405, how do you  
13 think that would have affected your estimates?

14 MS. MOLL: Objection to form.

15 A Are you asking me what would happen if our  
16 dataset was such that we asked 10 through 205 and  
17 everyone answered the way they answered but no one  
18 was asked 405?

02:27PM

19 Q Yes.

20 A Mathematically, given the positive number of  
21 people are saying yes to 405, you'd be throwing out  
22 data, and you'd end up with a lower -- a lower lower  
23 bound estimate, so your lower bound estimate would  
24 be lower than the one produced here because you're  
25 producing it with less information.

02:27PM

02:28PM

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**EDWARD MOREY, PhD, 4-29-09****94**

1       **Q**       Did you consider yea saying an issue in  
2       looking at the results of a contingent valuation  
3       survey like the one you did here?

4       **A**       That's an expression that -- that's a term  
5       that I know. I'm not sure exactly what it means. I               02:29PM  
6       think sometimes different people use it in different  
7       contexts. It's not a term I would use.

8       **Q**       Do you have an understanding of what it means?

9       **A**       I think one interpretation of the term is  
10      that, you know, some people, just because they are               02:29PM  
11      the way they are, have a tendency to answer, for  
12      example, on one end of the scale and some people --  
13      so if you ask a question like, you know, how do you  
14      feel about this or is this important, there might be  
15      on a scale of one to five certain types of people               02:30PM  
16      who would basically always answer maybe in the four  
17      to five range. I'm not saying that that happens or  
18      doesn't happen, but that's one interpretation of yea  
19      saying, people who are sort of optimistic if you  
20      like.   02:30PM

21               Another interpretation, possible  
22      interpretation and, again, I'm just speculating  
23      here, is that people -- it's kind of a code word  
24      maybe for people who might be saying yes when the  
25      person who is using the word that attaches it to               02:30PM

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**EDWARD MOREY, PhD, 4-29-09**

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1 that person is suggesting that they don't really  
2 mean yes, like somehow it's a code word for false  
3 yes.

4 Q Okay. Are you aware of any literature that  
5 defines the term yea saying?

02:30PM

6 A I'm sure the term must be defined. We must  
7 see the term used, whether it's used with  
8 definitions, I don't know. We must see the term  
9 used in some papers, but I can't cite you a paper  
10 right off the bat that's about yea saying per se.

02:31PM

11 Q Dr. Morey, I've handed you what's been marked  
12 as Deposition Exhibit No. 10, which is an article in  
13 your considered by materials. Can you tell me what  
14 this document is?

15 A It appears to be a masters degree by -- a  
16 masters degree by a student in Costa Rica.

02:32PM

17 Q Why was this in your considered by materials?

18 A Because someone in the team obviously sent it  
19 to me.

20 Q Do you know who John Berton Fisher is?

02:33PM

21 A John who?

22 Q John Berton Fisher. If you look at the second  
23 page, that's the person who checked this article out  
24 from the University of Tulsa.

25 A Oh, I see that on the first page, too. It's

02:33PM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

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1 just hard to read. I have no idea.

2 Q Did you review this document?

3 A I have no recollection of reviewing this  
4 document. I don't have a recollection of -- I don't  
5 recollect this document, no.

02:33PM

6 Q You don't deny that it was in your considered  
7 by materials?

8 A No, no, I don't.

9 Q You, just sitting here today, don't have any  
10 recollection of it?

02:34PM

11 A Right.

12 Q Let's go back to our discussion earlier today  
13 about the telephone survey that you were involved  
14 in --

15 A Okay.

02:34PM

16 Q -- back in 2006, and I think we looked at some  
17 documents that indicated you had some input into the  
18 creation of that survey; correct?

19 A There was an E-mail I believe with documents  
20 saying something like phone survey comments with a  
21 date on them, and then I'd have to look back, maybe  
22 some comments from me written into the survey.

02:34PM

23 Q Right. Did you review the survey results when  
24 they came in?

25 A I recollect that we discussed this. You asked

02:35PM

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**EDWARD MOREY, PhD, 4-29-09**

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1 me this this morning.

2 Q That's right.

3 A And I believe I said --

4 Q You did.

5 A -- I did. 02:35PM

6 Q Do you recall the response rate on that  
7 survey?

8 A Can I look?

9 Q I'm just asking if you recall off the top of  
10 your head. 02:35PM

11 A No.

12 Q No, okay. Sure, if you need to look at your  
13 notes, you can look at your notes.

14 A No, that's not it.

15 Q You can answer the question. 02:36PM

16 A Okay. Could you -- I've forgotten the  
17 question.

18 (Whereupon, the court reporter read  
19 back the previous question.)

20 A As I just answered, I don't recall the  
21 response rate. 02:36PM

22 Q Dr. Morey, I've handed you a document that's  
23 labeled Deposition Exhibit No. 11 --

24 A Okay.

25 Q -- which contains an E-mail from you to David 02:37PM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

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1 Chapman titled Show Them the Alum Before They Leave  
2 the Room. What was the context of this E-mail?

3 **A** I don't know. We might be able to reconstruct  
4 it by looking at the date and looking at the dates  
5 of focus groups. 02:38PM

6 **Q** Yeah. If you -- I'll just represent to you  
7 that on April 5th in Tulsa there was a focus group  
8 held.

9 **A** And I probably was not at the focus group.  
10 That's probably during the period of time where in 02:38PM  
11 some focus groups -- at one point in the process we  
12 would show them the jar of alum from Kroger's or  
13 wherever it was, and I might have been listening in  
14 on the phone and not heard anything about it, so  
15 maybe just said, the idea was make sure you remember 02:39PM  
16 to pass around the alum jar.

17 **Q** Sitting here today, do you remember whether  
18 you attended in person the focus group in Tulsa on  
19 April 5th, 2007 or not?

20 **A** My inferential evidence is that I was not 02:39PM  
21 there because I was sending an E-mail, but I don't  
22 know that for sure.

23 **Q** So for some of these focus groups or at least  
24 a focus group you sometimes listened in on the  
25 phone? 02:39PM

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**EDWARD MOREY, PhD, 4-29-09**

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1 respondents is the same type of alum that would be  
2 applied to the fields and to the land and water?

3 MS. MOLL: Objection to form.

4 **A** I don't know that alum would be applied to the  
5 fields and the water. 02:42PM

6 **Q** In your scenario, you were telling people that  
7 there would be a treatment of Tenkiller Lake and the  
8 river that would involve application of alum;  
9 correct?

10 **A** That is correct. 02:42PM

11 **Q** Did you tell the respondents what type of alum  
12 was going to be used?

13 MS. MOLL: Objection to form.

14 **A** No.

15 **Q** Did you tell the respondents that one of the 02:43PM  
16 experts for the plaintiffs believed that there were  
17 problems with using alum to treat the phosphorus?

18 MS. MOLL: Objection to form.

19 **A** No.

20 **Q** Why don't you take a look at the exhibit in 02:43PM  
21 front of you, Exhibit 12, please?

22 **A** Okay.

23 **Q** Now, these are your notes of a focus group  
24 that was held on 4-5-2007. The actual computer file  
25 is dated the next day, April 6th, 2007. 02:44PM

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**EDWARD MOREY, PhD, 4-29-09****102**

1     **A**       I recall the basic question. I don't -- I'm  
2     not sure my answer was exactly what you said.

3     **Q**       Did I get the gist, Dr. Morey?

4     **A**       Could you read it back to me one more time?

5               (Whereupon, the court reporter read                               02:47PM  
6     back the previous question.)

7               MS. MOLL: Objection to the extent your  
8     question mischaracterizes his testimony.

9     **A**       Could I just re-answer the question?

10    **Q**       Sure, re-answer the question.                               02:47PM

11    **A**       We have to make a distinction between voting  
12    on the referendum and people's willingness to pay  
13    for improvement. I might have a willingness to pay  
14    of X dollars for the improvement, but if I feel  
15    unfairness or ethical grounds that someone else is                       02:48PM  
16    responsible, I might have an inclination to vote no,  
17    falsely suggesting that my willingness to pay is  
18    lower than whatever the stated amount was, so  
19    getting an incorrect signal.

20    **Q**       Isn't it also true that telling the                               02:48PM  
21    respondents that a judge has decided to issue an  
22    injunction suggests to the respondents that the  
23    defendants are responsible for the injury?

24    **A**       Let's look at the survey. I don't think  
25    that's the --   02:48PM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

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1       **Q**       Why don't we go off the Record while you look  
2       at the survey.

3               VIDEOGRAPHER: We are now off the Record.  
4       The time is 2:48 p.m.

5               (Whereupon, a discussion was held off                       02:50PM  
6       the Record.)

7               VIDEOGRAPHER: We are back on the Record.  
8       The time is 2:49 p.m.

9       **A**       I'm reading the wording from the survey here.  
10      The State has asked the federal court to stop all                       02:51PM  
11      future spreading of poultry litter on land around  
12      the river and lake. The court is expected to make a  
13      decision about the ban by the end of the year. I  
14      wouldn't interpret that to say that we've told them  
15      that the court has imposed a ban.                                       02:51PM

16      **Q**       Did you tell them during the survey that the  
17      court in fact had decided not to impose a ban?

18      **A**       We did not, and my understanding that's not  
19      what the court decided. The court decided not to  
20      impose -- and I'm not a lawyer, but my understanding                       02:51PM  
21      was the court decided not to impose a -- now, I'm  
22      having trouble with words -- a preliminary  
23      injunction, but I'm not a lawyer, so --

24      **Q**       And you didn't tell the respondents that the  
25      court had not imposed a preliminary injunction by                       02:52PM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

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1 the end of the year?

2 **A** We did not.

3 **Q** Thank you.

4 VIDEOGRAPHER: We are now off the Record.

5 The time is 2:51 p.m. 02:52PM

6 (Following a short recess at 2:51 p.m.,  
7 proceedings continued on the Record at 2:58 p.m.)

8 VIDEOGRAPHER: We are back on the Record.

9 The time is 2:58 p.m.

10 **Q** Dr. Morey, you were involved in the focus 02:59PM  
11 groups to some extent; correct?

12 **A** Yes.

13 **Q** What's the purpose of holding all these focus  
14 groups?

15 **A** It was important to see how the answers to 02:59PM  
16 questions might differ, urban, rural, by region, by  
17 location in the state.

18 **Q** It's true, isn't it, that you modified the  
19 questions that you asked members of the focus groups  
20 as time went along? 03:00PM

21 **A** The focus groups were changed as time went on,  
22 yes.

23 **Q** Not only --

24 **A** I'm sorry. Not the focus groups. The  
25 survey -- the material we were presenting in the 03:00PM

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**EDWARD MOREY, PhD, 4-29-09**

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1 focus groups was a changing product.

2 Q So as you received more information from a  
3 focus group, you would go back and change the  
4 materials that you were providing to the respondents  
5 in the next focus group; is that fair?

03:00PM

6 A If we thought that there was a way to fix a  
7 problem, like a misconception where people were  
8 comprehending a question differently and we could  
9 come up with a way of saying it more clearly, then  
10 we could do that, yes.

03:01PM

11 Q And what was the goal behind this iterative  
12 process that you used in the focus groups; what was  
13 the final product you were looking for?

14 A An adequate characterization of current  
15 conditions, consistent with the facts and  
16 comprehended by the respondents, the same thing for  
17 the characteristics or the state of the resources  
18 after injury levels returned to a baseline and a  
19 product acceptable to the respondents for how to get  
20 from one state to the other state.

03:01PM

03:02PM

21 Q How did you assure that you were adequately  
22 characterizing the current conditions?

23 MS. MOLL: Objection to form.

24 A If people are not asking for additional  
25 information and if you ask them to tell you back in

03:03PM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

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1 their own words, for example, how they would  
2 describe the conditions and that's consistent with  
3 the facts, then at that point you can't be 100  
4 percent assured but you have a reasonable  
5 expectation that the representative individual  
6 understands.

03:03PM

7 **Q** How did you determine that the  
8 characterization you were providing to the  
9 respondents was consistent with the facts?

10 **A** Dr. Richard Bishop would liaison between us,  
11 the damage team and injury scientists to check the  
12 facts and to make sure that they were in agreement  
13 with the descriptions as presented. I wasn't  
14 involved in that process.

03:04PM

15 **Q** So I'd have to ask Dr. Bishop that question?

03:04PM

16 **A** Yes.

17 **Q** Did you modify the facts that you presented to  
18 the respondents based on Dr. Bishop's  
19 recommendations?

20 MS. MOLL: Objection to form.

03:05PM

21 **A** The expression modify the facts is problematic  
22 for me. Are you asking whether the injury  
23 description changed?

24 **Q** Why don't we ask that. Did the injury  
25 description change throughout this process?

03:05PM

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**EDWARD MOREY, PhD, 4-29-09**

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1 whether or not the photos represented the condition  
2 of the resource in the 1960s?

3 **A** I did not. I have no information about the  
4 conditions of the resource in 1960.

5 **Q** Dr. Bishop had that information? 03:08PM

6 **A** I'm not privy to all information Dr. Bishop  
7 has or doesn't. You'll have to ask Dr. Bishop.

8 **Q** How many members of the team participated in  
9 observing these focus groups?

10 **A** Barbara participated in none of the focus 03:08PM  
11 groups. There were always I'd say at least between  
12 three and the full group depending on who was  
13 traveling and who was in town and who was teaching.

14 **Q** Who presented the information to the focus  
15 groups? 03:09PM

16 **A** There were two people in the room, a  
17 presenter, a moderator if you'd like, and that was  
18 typically either Richard Bishop or David Chapman,  
19 and then there was a reader. When we got to the  
20 point of reading scripts, there was an additional 03:09PM  
21 reader and that was Colleen Donovan.

22 **Q** You also did field pretests; correct?

23 **A** Yes.

24 **Q** And if you look at Page 3-6 of the report, it  
25 lists the dates of those pretests? 03:10PM

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**EDWARD MOREY, PhD, 4-29-09**

**109**

1       **A**       Yes. I've got it.

2       **Q**       After the first field pretest on January 14th,  
3       2008, you continued to hold focus groups. Why did  
4       you do that?

5       **A**       A pretest is -- 03:10PM

6       **Q**       Let me strike that. I'm looking at the wrong  
7       page. At Page 3-7 of your report, it talks about  
8       the field period for Pilot Studies 1 and 2; do you  
9       see that?

10      **A**       I do. 03:11PM

11      **Q**       And Pilot Study 1 was in the field from April  
12      7th to April 23rd; right?

13      **A**       Yes.

14      **Q**       Why after you field tested Pilot Study 1 did  
15      you go back and conduct additional focus groups? 03:11PM

16      **A**       The pilot studies are quite expensive, both in  
17      terms of money and recruiting people. If you want  
18      to make a small change between -- to the instrument,  
19      it's prudent not to take that instrument, make some  
20      changes to it and then try it out right away on a 03:12PM  
21      whole bunch of people. Just to be safe, do a focus  
22      group, find out how people will react to the change,  
23      and assuming no problems arise there, then go back  
24      and do the second pilot.

25      **Q**       Based on that answer, I assume that following 03:12PM

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**EDWARD MOREY, PhD, 4-29-09****110**

1 the field pretest of the first pilot study, you  
2 wanted to make some changes to the survey materials;  
3 right?

4 **A** I personally or the team?

5 **Q** The team. 03:13PM

6 **A** I don't explicitly remember what changes were  
7 made or why they were made or even if changes were  
8 made.

9 **Q** I thought you just said that instead of making  
10 changes in the field, you would go back and conduct 03:13PM  
11 more focus groups because it was less expensive;  
12 right?

13 **A** My answer, yes, but so if changes were made,  
14 that would be the prudent thing to do, but I can't  
15 testify for sure that changes were made. 03:13PM

16 **Q** You continued the focus groups through July  
17 18, 2008; right?

18 **A** Yes. There was a focus group on July 17th and  
19 July 18th.

20 **Q** And the main survey went into the field in 03:14PM  
21 September of 2008; right?

22 **A** I did not pay a lot of attention to the  
23 specific mechanics of when the survey started or  
24 didn't start. Sometime in the fall.

25 **Q** Going back to Exhibit 12, which are your notes 03:14PM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

**111**

1 from the April 5th, 2007 focus group, if you would  
2 take a look at the second page --

3 **A** April 5th, 2007, yes.

4 **Q** -- the top of the second page or near the top  
5 of the second page it says, second focus group; do  
6 you see that?

03:15PM

7 **A** Yes.

8 **Q** Right below that there's a comment you wrote  
9 that says, worry that it will never return to the  
10 1970s levels; do you see that?

03:15PM

11 **A** I do.

12 **Q** It appears that this was a comment of one of  
13 the participants in the focus group. Is that your  
14 interpretation?

15 **A** My recollection is that one or more people  
16 were -- expressed the notion that it would be  
17 difficult to enforce a ban on future spreading of  
18 poultry litter.

03:16PM

19 **Q** You wrote worry that it will never return to  
20 1970 levels. That would indicate that a participant  
21 was worried that it would never return to 1970  
22 levels; correct?

03:16PM

23 **A** I think that's a reasonable interpretation.

24 **Q** And during the focus groups, you were  
25 informing respondents that you were trying to return

03:17PM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

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1 it to 1970 levels; is that correct?

2 MS. MOLL: Objection to form.

3 A I don't know what the date was. This could  
4 refer to somebody saying, well, it's never going to  
5 be like it was back in the '70s.

03:17PM

6 Q How did you, as the team, determine that you  
7 would return the river and lake to the 1960s levels  
8 in the base survey?

9 A You would -- I don't know how the date 1960  
10 was chosen.

03:18PM

11 Q You weren't part of that decision?

12 A I was not.

13 Q Do you know who made that decision?

14 A I would ask Richard Bishop.

15 Q A little further down on the page you wrote  
16 maybe we should list the downsides of alum to give  
17 us credibility. Are there any? Do you see that  
18 note?

03:18PM

19 A I do see the note.

20 Q Are you aware that the plaintiff's expert,  
21 Todd King, points to environmental concerns  
22 regarding the alum treatments?

03:18PM

23 MS. MOLL: Objection to form.

24 A Who? Who did that?

25 Q Plaintiff's expert, Todd King.

03:19PM

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**EDWARD MOREY, PhD, 4-29-09**

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1 treatments would work or not work.

2 Q And, again, in designing the main survey, you  
3 chose not to tell the respondents that there were  
4 environmental concerns regarding the alum  
5 treatments; right? 03:21PM

6 MS. MOLL: Objection to form.

7 A We presented to them a program for which there  
8 were no environmental negative effects.

9 Q When you say you presented them with a program  
10 for which there were no environmental effects, 03:22PM  
11 you're talking about the program that you described  
12 in the base survey?

13 A Yes.

14 Q And it didn't matter to you whether or not if  
15 one were to implement that program, there would be 03:22PM  
16 environmental effects?

17 A Did I worry that there would be negative  
18 environmental effects if alum was put on the land?

19 Q That wasn't my question.

20 A I'm sorry. Could you read it back? 03:23PM

21 (Whereupon, the court reporter read  
22 back the previous question.)

23 A Well, the whole intent of the program was to  
24 bring about environmental effects.

25 Q If the alum treatments resulted in 03:23PM

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**EDWARD MOREY, PhD, 4-29-09**

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1 environmental concerns -- strike that. If the alum  
2 treatments resulted in negative environmental  
3 consequences, do you think that was something that  
4 you should have shared with the survey respondents?

5 MS. MOLL: Objection to form. 03:23PM

6 **A** I have no opinion in this case about what  
7 would happen if alum was dumped on the land and the  
8 water, and I have no opinion about whether it's  
9 being considered or not, and I have no opinion about  
10 whether it should be considered. 03:24PM

11 **Q** All that mattered was the respondents believed  
12 the information you were providing to them was  
13 plausible; correct?

14 **A** I think that's a fair characterization.

15 **Q** Did it matter that the description of the 03:24PM  
16 resource be an accurate description of the resource?

17 **A** I believe I've been asked that question about  
18 four times.

19 **Q** And your answer is?

20 **A** The same as it's been the other times. Should 03:25PM  
21 I answer the question again?

22 MS. MOLL: Why don't you rephrase the  
23 question, Colin?

24 MR. DEIHL: Can you read it back?

25 (Whereupon, the court reporter read 03:25PM

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**EDWARD MOREY, PhD, 4-29-09**

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1 back the previous question.)

2 Q Let me try again, Dr. Morey.

3 A Okay.

4 Q Why wouldn't negative environmental effects of  
5 a proposed alum treatment change a respondent's  
6 willingness to pay if you told the respondents about  
7 the negative environmental effects of the proposed  
8 alum treatment?

03:26PM

9 MS. MOLL: Objection to form.

10 (Whereupon, the court reporter read  
11 back the previous question.)

12 A The intent was to value a reduction in  
13 injuries. If you added into the description of the  
14 program that this would get rid of one type of  
15 injury, the program, but it would add another type  
16 of injury, then you're no longer estimating the  
17 reduction in injuries. You're estimating some  
18 smaller improvement.

03:27PM

19 Q In estimating the reduction in injuries, the  
20 respondents need to have an understanding of the  
21 injury; correct?

03:27PM

22 A To estimate the damages associated with a  
23 reduction in injuries, the individuals need to have  
24 an adequate understanding of the initial conditions  
25 that they're starting from and what the new

03:28PM

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**EDWARD MOREY, PhD, 4-29-09**

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1 conditions will be.

2 Q And if the initial conditions that you're  
3 starting from are misrepresented to the respondents,  
4 you aren't measuring the reduction in injury;  
5 correct?

03:28PM

6 MS. MOLL: Objection to form.

7 A The reduction in injury -- the damages  
8 associated with the reduction of injury could -- the  
9 damages could be the same even if the injury was  
10 somewhat different. So even if you don't get the  
11 description exactly right, that will not necessarily  
12 give you the wrong damage estimate.

03:29PM

13 Q But it could?

14 A It could.

15 Q Do you consider it important in designing a  
16 survey to try to represent to the respondents the  
17 actual existing condition of the resource?

03:29PM

18 A Could you read it?

19 (Whereupon, the court reporter read  
20 back the previous question.)

03:30PM

21 A Again, I've answered that numerous times, that  
22 you want to describe the injuries to people, the  
23 current conditions to people in a way that's  
24 acceptable to them, they feel they have enough  
25 information to make a decision, and the description

03:30PM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09****118**

1 is consistent with the facts; it doesn't distort the  
2 facts.

3 **Q** What happens if the description distorts the  
4 facts?

5 MS. MOLL: Objection to form. 03:31PM

6 **A** Could you be more specific?

7 **Q** You indicated that you wanted to describe the  
8 injury in a way that is consistent with the facts.  
9 My question to you is, what happens to the  
10 willingness to pay number if you aren't consistent 03:31PM  
11 with the facts in your description?

12 **A** As I answered a second ago, it depends on how  
13 inconsistent with the facts one is and whether or  
14 not that's important to the respondent.

15 **Q** And in order to measure that, you would need 03:32PM  
16 to do another survey with a different set -- with a  
17 different description of the facts to determine  
18 whether or not it was important to the respondent;  
19 correct?

20 **A** One can do -- if one wants to see how much the 03:32PM  
21 description -- how much the propensity to vote yes  
22 or no would change with a change in the description  
23 of the initial conditions, the most straightforward  
24 way of doing that would be to do another study.

25 **Q** Taking a look at the Stratus report, I want 03:33PM

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**EDWARD MOREY, PhD, 4-29-09**

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1 you to answer some questions about the report while  
2 looking at the next deposition exhibit, which will  
3 be marked as Exhibit 12 -- 13. Sorry. Do you have  
4 Exhibit 13 in front of you?

5 **A** I do. 03:34PM

6 **Q** Exhibit 13 contains a report schedule. Do you  
7 see that?

8 **A** September 28th, yes.

9 **Q** Okay. This is an E-mail from Colleen Donovan  
10 to you, among others, dated September 28th, 2008; 03:34PM  
11 right?

12 **A** Correct.

13 **Q** This is when the main survey was in the field?

14 **A** I believe so. Probably recently in the field.

15 **Q** Okay, and about halfway down the page is a 03:34PM  
16 report schedule; do you see that?

17 **A** Yes.

18 **Q** Now, you were writing the Stratus report while  
19 the survey was in the field; right?

20 **A** Some sections, yes. 03:34PM

21 **Q** And individual authors or individual team  
22 members were assigned authorship of particular  
23 chapters; right?

24 **A** Well, let me read. Is there a place where  
25 it's listed, the authors? 03:35PM

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**EXHIBIT E**





**EDWARD MOREY, PhD, 4-29-09****121**

1 Chapter 6?

2 **A** As I testified earlier today, I helped to  
3 put -- decide what statistics and tables would go in  
4 the initial draft of those chapters, and at one  
5 point I wrote up a few paragraphs describing in  
6 words what some of those tables said, and maybe some  
7 words about what other tables would be added.

03:37PM

8 **Q** Tell me, how did this work that you were  
9 drafting these chapters to this report at the time  
10 the base survey was out in the field?

03:37PM

11 **A** Well, for example, with the tables, we had an  
12 idea of what some of the tables we wanted to have  
13 from earlier data collection efforts. For example,  
14 we knew we probably wanted to present a construct  
15 validity model. So a template was set up for that,  
16 and then as data came in, data would come in every  
17 few weeks, we would update the tables and change the  
18 tables. Some of the chapters -- the sampling plan  
19 at that point was completely determined or almost  
20 completely determined.

03:38PM

03:38PM

21 **Q** Chapter 6, the chapter that you took the first  
22 stab at, is now entitled Distribution of Votes and  
23 Test of Validity. Certainly that information wasn't  
24 complete in this time period from October through  
25 December; correct?

03:38PM

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**EXHIBIT E**



**EDWARD MOREY, PhD, 4-29-09****123**

1 chapter.

2 Q In the proposed Section 9.6 of your chapter,  
3 you had a section labeled the Sensitivity of the  
4 Estimated Lower Bound Mean and Median As a Function  
5 of Their Beliefs and Expectations; do you see that? 03:42PM

6 A I do.

7 Q Did any of those sections make it into the  
8 final document?

9 A During the process, there were a number of  
10 tables produced for the team of these sort of 03:42PM  
11 two-by-two contingency tables. Statistically and  
12 econometrically, if you want to tell how some  
13 variable is affecting willingness to pay, you don't  
14 look at one variable in isolation of other  
15 variables. What you do is some sort of analysis 03:43PM  
16 that takes all these things into account at the same  
17 time, so controls for all of these things. So these  
18 sort of tables were appropriately replaced by the  
19 construct validity analysis.

20 Q So these sections, Section 9.6, 9.62, 9.63, 03:43PM  
21 9.64, 9.65, 9.66, 9.67, none of those made it into  
22 the final report; right?

23 MS. MOLL: Objection to form.

24 A So starting with 9.6?

25 Q Yes. 03:44PM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09****124**

1     **A**       The first table in Section 9.62, there is a  
2     table or tables in the report that show how the  
3     probability of voting varies by how much you  
4     expected to pay or not expected to pay, not  
5     converted into estimates of willingness to pay but                   03:44PM  
6     effectively the same information.

7             If we turn to the next table, which is 9.7,  
8     the probability of saying yes to accelerated cleanup  
9     program is sensitive to the scope of the cleanup  
10    program. Right at the beginning of the section on                   03:45PM  
11    scope, there's a table like this, and as we read  
12    into the Record earlier, statistical tests about the  
13    probabilities being different, significantly  
14    different at the different bid amounts. I believe  
15    the figure underneath it is -- let me look -- just a               03:45PM  
16    picture of what's in the table. So, no, I would  
17    disagree. I would say that information contained in  
18    these tables is either in the report or could be  
19    quickly derived from the numbers in the report.

20    **Q**       Now, you started drafting this document                   03:45PM  
21    sometime in October. This particular document is  
22    dated -- well, has a schedule for the week of  
23    November 3rd; right?

24    **A**       Right.

25    **Q**       Why did you bother to draft this document and           03:46PM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09****125**

1 suggest these tables if they were just going to be  
2 replaced by the construct validity model?

3 **A** Some of these tables were easier to produce  
4 very quickly and revise very quickly than the  
5 construct validity models, and -- well, they don't  
6 tell the whole story. You can -- looking at  
7 contingency tables is a common technique for getting  
8 a rough feel for -- from your data as described in  
9 most statistics books about categorical data.

03:46PM

10 **Q** Now, you indicated Dr. Krosnick took over this  
11 chapter from you. When did that occur?

03:47PM

12 **A** I think I just answered.

13 **Q** You said December?

14 **A** Yes, December sometime.

15 **Q** So you continued to work on the chapter  
16 through the month of November?

03:47PM

17 **A** Well, I continued to -- I made comments on his  
18 draft throughout the process until -- not until the  
19 very end but probably within a week or so of the  
20 very end.

03:48PM

21 **Q** When you say you made comments on his draft,  
22 his draft of what's currently Chapter 6 in the  
23 report?

24 **A** Yes.

25 **Q** Did Chapter 9 become Chapter 6; is that your

03:48PM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

**126**

1 testimony?

2 **A** The intent of Chapter 9 became the intent of  
3 Chapter 6. Let me rephrase that a bit. There's  
4 some stuff that also became part of Chapter 7.

5 **Q** You've worked on this matter since the summer 03:48PM  
6 of 2006; correct?

7 **A** On and off with a couple of major  
8 interruptions.

9 **Q** So we're now approaching three years that  
10 you've been working on this matter; right? 03:49PM

11 **A** Yes.

12 **Q** How much have you been paid by the plaintiffs  
13 to date?

14 **A** In 2008 I was paid a little over a hundred  
15 thousand dollars. I'm not sure how much more but a 03:49PM  
16 hundred something. That was the period that I  
17 probably worked the most on the project. I'm pretty  
18 sure the amounts in the years prior to that were  
19 less than that and probably substantially less.

20 **Q** Do you know what those figures are? 03:49PM

21 **A** I don't. I would have to go back to my  
22 invoices, which I believe you have copies of.

23 **Q** How many hours have you worked in total on  
24 this project?

25 **A** Weeks or months. 03:50PM

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**EDWARD MOREY, PhD, 4-29-09**

**128**

1 mean and what does this squiggle mean and that sort  
2 of thing, and I presented the basic idea behind  
3 these notes.

4 **Q** What was the basic idea behind these notes?

5 **A** I don't know. This was a long time ago. 03:53PM

6 **Q** No. It's a year ago.

7 **A** Well --

8 **Q** But you don't remember sitting here today?

9 **A** I could sit here and read them and then  
10 reconstruct them but -- 03:53PM

11 **Q** Why don't we go off the Record for a moment  
12 and let you read them.

13 **A** Okay.

14 VIDEOGRAPHER: We are now off the Record.

15 The time is 3:52 p.m. 03:54PM

16 (Following a short recess at 3:52 p.m.,  
17 proceedings continued on the Record at 3:58 p.m.)

18 VIDEOGRAPHER: We are back on the Record.

19 The time is 3:58 p.m.

20 **Q** Dr. Morey, have you had a chance to look 04:00PM  
21 through your document entitled Backcasting, colon,  
22 Estimating Past Damages Based on Future Damages and  
23 Estimated Past Injuries?

24 **A** I have.

25 **Q** What were you proposing to do in this 04:00PM

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**EXHIBIT E**



**EDWARD MOREY, PhD, 4-29-09****129**

1 document, Dr. Morey?

2 **A** This is a document that presents a  
3 mathematical model for estimating bounds on past  
4 damages in a very well-informed world where one has  
5 an estimate of future damages like we have where one 04:01PM  
6 assumes a particular interest rate. One could also  
7 do sensitivity analysis on the interest rate. One  
8 very restrictively assumes that the injuries in a  
9 given year can be completely described in terms of a  
10 single variable, so a discrete or continuous 04:01PM  
11 variable, one dimensional. It very simply assumes  
12 that damages in a given year are a function of just  
13 the injuries in that year. It assumes that the  
14 injury scientists can represent the injury each year  
15 in terms of that scale or variable for all years 04:02PM  
16 into the future and all years into the past, and  
17 then it makes different assumptions about the  
18 functional form of the damage function, and in terms  
19 of a few simple parameters, a sort of form that  
20 would suggest that damages go up in an increasing 04:02PM  
21 rate, that would be one extreme, or damages go up at  
22 a decreasing rate. You plug in all the numbers; you  
23 reverse things, and you can get an estimate of past  
24 damages in this very extremely well-informed  
25 abstract world where it's very easy to characterize. 04:02PM

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**EDWARD MOREY, PhD, 4-29-09**

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1 So this is the sort of thing that I might give my  
2 students as a first step in writing up a how  
3 theoretically could you possibly do this.

4 Q And you provided this document to Dr. Bishop  
5 and Mr. Chapman?

04:03PM

6 A I did.

7 Q Did the team adopt the approach suggested in  
8 this document?

9 A I have never seen the injury report. I have  
10 no idea what approach the team adopted for  
11 backcasting.

04:03PM

12 Q Besides producing this draft, did you do any  
13 further work on this particular idea?

14 A No.

15 Q Okay. So you sent it to Dr. Bishop and Mr.  
16 Chapman. In January of 2008 you had a phone call  
17 with them, and after that, you didn't do any further  
18 work?

04:04PM

19 A We had a sit-down meeting about it in Boulder  
20 in a conference room for an hour.

04:04PM

21 Q So you didn't have a phone call; you had a  
22 sit-down meeting?

23 A Yes.

24 Q And following that sit-down meeting, you  
25 didn't do any further work on this idea?

04:04PM

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**EXHIBIT E**



**EDWARD MOREY, PhD, 4-29-09****132**

1 Tenkiller Lake is a normal good?

2 MS. MOLL: Objection to form.

3 **A** Something can be a normal good for one type of  
4 user and not a normal good for another type of user.

5 It could be a normal commodity from a non-use 04:07PM

6 perspective for one person. It could be a

7 non-normal commodity. So it varies from individual

8 to individual, and it depends. It depends on why

9 people care about it and/or why people are using it

10 and numerous things. 04:07PM

11 **Q** What does the law of demand say about normal  
12 goods?

13 **A** Other than a construct that people talk about  
14 in principles classes, which I teach, there is no

15 law of demand. 04:08PM

16 **Q** Okay. What's the construct that you teach in  
17 your principles class, Dr. Morey?

18 **A** Well, I don't personally teach the construct,  
19 but if we're talking about a world where the good is

20 one can consume the good in different quantities, 04:08PM

21 like Cokes. You can consume, one, one and a half,

22 two, three, that sort of thing. If income increases

23 by 1 percent, holding everything else constant, then

24 a normal good would be a good where the quantity

25 demanded of that good increased approximately 1 04:09PM

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**EDWARD MOREY, PhD, 4-29-09**

133

1 percent at the current price that you're talking  
2 about. That's not the type of good we're talking  
3 about in this case.

4 **Q** So you would not consider a clear lake a  
5 normal good? 04:09PM

6 **A** Whether a clear lake is a normal good or not  
7 is an empirical question, and it could be a normal  
8 good for some people, not for other people. It  
9 could be a normal good in terms of use values or  
10 non-use values or the opposite. It's an empirical 04:09PM  
11 question.

12 **Q** How would you determine the answer to that  
13 empirical question whether or not Tenkiller Lake is  
14 a normal good?

15 **A** Well, one thing I would do is what we did in 04:10PM  
16 the construct validity equation, where we estimated  
17 the probability of someone voting yes as a function  
18 of the price, the bid price, characteristics of the  
19 individual and a variable representing income, and  
20 that regression showed that the probability of 04:10PM  
21 voting yes was increasing, and the law of income,  
22 taking account of holding constant all the other  
23 factors that influence demand, so that says that  
24 when income goes up, demand goes up.

25 **Q** And that would tell you it is a normal good 04:10PM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09****134**

1 for those users?

2 **A** It would depend on how much demand went up  
3 when income went up.

4 **Q** Are you familiar with the term moral  
5 satisfaction as used in contingent valuation 04:11PM  
6 surveys?

7 **A** I've -- I've heard the expression. It's not  
8 an expression that I commonly use. In the simplest  
9 sense, I think it means something along the lines of  
10 one feels good, like a good person, by doing 04:12PM  
11 something, a feeling of feeling good from a certain  
12 action.

13 **Q** What effect does moral satisfaction have on an  
14 individual's willingness to pay?

15 **A** People can easily prefer states of the world 04:12PM  
16 where they feel good about themselves over states of  
17 the world where they don't feel good about  
18 themselves. So that feeling good about yourself is  
19 a -- everything else constant, a preferred state  
20 over a state where everything else is the same, and 04:13PM  
21 you don't. That's a perfectly legitimate feeling to  
22 hold.

23 **Q** What impacts, if any, would that feeling have  
24 on the willingness to pay numbers that you arrived  
25 at in this survey? 04:13PM

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**EDWARD MOREY, PhD, 4-29-09**

135

1 MS. MOLL: Objection to form.

2 **A** Say it again.

3 (Whereupon, the court reporter read  
4 back the previous question.)

5 **A** Your inclination to vote yes or no at a given 04:13PM  
6 bid amount is a function of your preferences and  
7 your constraints, and if making the water clear in  
8 Tenkiller Lake makes you feel better either because  
9 you personally like the water to look clearer or for  
10 whatever reason it makes you feel better, you know, 04:14PM  
11 that's your preferences. I can't parse out how much  
12 of it is because of this and how much of it is  
13 because of that.

14 **Q** So if respondents vote based on moral  
15 satisfaction, they're not actually reporting the 04:14PM  
16 economic value of the good they're being asked about  
17 but instead derive satisfaction being able to  
18 contribute to the mitigation of the problem and  
19 being known to have done so; is that fair?

20 **A** No. 04:15PM

21 **Q** If I asked you to assume that moral  
22 satisfaction means that respondents don't actually  
23 report the economic value of the good that they are  
24 asked about but derive satisfaction from being able  
25 to contribute to the mitigation of the problem and 04:15PM

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**EDWARD MOREY, PhD, 4-29-09**

**136**

1 from being known to do so --

2 **A** Well, if --

3 **Q** I hadn't finished my question.

4 **A** I'm sorry.

5 **Q** What effect does that moral satisfaction have 04:15PM  
6 on willingness to pay?

7 MS. MOLL: Objection to form.

8 **A** In your question you defined this feeling as  
9 something that doesn't reflect people's preferences  
10 and/or characterize it as an illegitimate preference 04:16PM  
11 that should not be included in the calculation of  
12 willingness to pay. Then by your definition that  
13 it's the wrong thing to do, then we adopt your  
14 definition, then it's the wrong thing to do.

15 **Q** That's your interpretation of my definition. 04:17PM  
16 That wasn't my definition.

17 **A** Okay. Let's try again if you want.

18 **Q** In your construct validity model, percent yes  
19 increased as income increased; right?

20 **A** Correct. 04:18PM

21 **Q** So while the relationship between an  
22 individual's income and willingness to pay might  
23 vary, in general for the sample population, would  
24 you expect a positive relationship between  
25 willingness to pay and income, others things being 04:18PM

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**EXHIBIT E**



**EDWARD MOREY, PhD, 4-29-09****137**

1 equal?

2 **A** If you -- there's a Logit result that says  
3 that as income increases, the probability of yes  
4 goes up, in which case predicted willingness to pay  
5 on the basis of the Logit equation by definition 04:18PM  
6 would go up.

7 **Q** Dr. Morey, I've handed you Exhibit 15, which  
8 is an E-mail you wrote on April 26th to Michael  
9 Hanemann, and you indicate in the text of the  
10 E-mail, I have written up some notes and questions 04:20PM  
11 about estimating a Logit model with background  
12 probability. Would like to discuss soon. Did you  
13 provide those notes to us in your considered  
14 materials?

15 **A** To my knowledge I've turned over all my notes, 04:20PM  
16 so I assume I did. I don't specifically recollect  
17 turning over those notes.

18 **Q** What were those -- can you describe those  
19 notes to me and your questions about estimating a  
20 Logit model? 04:20PM

21 **A** As part of -- I'm sorry. Can you read that  
22 again? I'm a little tired.

23 (Whereupon, the court reporter read  
24 back the previous question.)

25 **A** There's -- there's models in the literature 04:21PM

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**EDWARD MOREY, PhD, 4-29-09**

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1 that estimate -- parametric models in the literature  
2 that use referendum CVM models to estimate survival  
3 functions and willingness to pay. There's different  
4 variations on those models and -- since we didn't  
5 know -- since we knew we would only have a small  
6 amount of time between when we got the final data  
7 and a report was due, in this case I just wrote down  
8 a simple Logit model with a background probability.  
9 I believe I just walked through my notes with  
10 Michael probably on the phone one day.

04:21PM

04:22PM

11 **Q** It would have been on the phone back in April  
12 of 2008?

13 **A** Sometime after that. Sometimes it takes  
14 awhile. Michael travels a lot.

15 **Q** Sometime shortly after April 26th, 2008?

04:22PM

16 **A** Yeah. I don't -- I vaguely recollect a  
17 conversation about this particular thing to be very  
18 brief.

19 **Q** What do you remember about that conversation,  
20 Dr. Morey?

04:23PM

21 **A** That here's how you would adjust the  
22 likelihood function if you wanted to put in a  
23 background probability.

24 **Q** When did you decide to go with a  
25 non-parametric estimator model?

04:23PM

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**EDWARD MOREY, PhD, 4-29-09**

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1     **A**       I can't speak for other team members, but I  
2     have a strong sense that in cases like this for  
3     litigation, you want damage estimates that are  
4     driven by the data and solely by the data and not  
5     driven by modeling assumptions. So in this context  
6     I'm a strong advocate of non-parametric models and  
7     think of parametric models as something you might do  
8     for sensitivity analysis but not to generate a  
9     damage estimate.

04:24PM

10    **Q**       When did the team decide to go with a  
11    non-parametric estimator model in this case?

04:24PM

12    **A**       Well, I'm describing to you my sense of how to  
13    proceed, and that was my sense from the very  
14    beginning, and I think -- I mean, it's just the way  
15    to go to be conservative and to not have your damage  
16    estimate pushed up on the basis of some modeling  
17    assumption about data points, what the model is  
18    doing or what the data is doing or data you don't  
19    observe. It's just much cleaner, much clearer.

04:24PM

20    It's very conservative. It's easy to explain. So  
21    if you talk to other people about that, I would  
22    expect they would say, yeah, that was my view all  
23    along, too.

04:25PM

24    **Q**       You don't have an agreement among the team  
25    members early on that you were going to go with a

04:25PM

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**EDWARD MOREY, PhD, 4-29-09**

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1 non-parametric estimator model?

2 **A** My sense is we had an implicit agreement that  
3 we would go with a non-parametric estimator unless  
4 some -- you know, something happened, you know, and  
5 I don't know what, that would make that impossible,  
6 but I don't know what that would be.

04:26PM

7 **Q** Dr. Morey, I've handed you what's been marked  
8 as Exhibit 16, which is one of your invoices for the  
9 period October 27th to December 12th, 2008, and  
10 during this period you worked on the project for 114  
11 hours. Did I get that right?

04:26PM

12 **A** That's what it says.

13 **Q** And this is the time period when you were  
14 drafting that chapter of the report, Chapter 9 that  
15 we looked at earlier; right?

04:27PM

16 **A** Yes.

17 **Q** You also had two sets of weekend-long  
18 meetings?

19 **A** Yes.

20 **Q** What were the purpose of those meetings during  
21 this time period?

04:27PM

22 **A** Oh, I see where it says. I couldn't see where  
23 it said two sets of weekend-long meetings. One of  
24 the meetings was in Denver at the -- at an airport  
25 hotel of the team and the other meeting was in

04:27PM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09**

**141**

1 Washington, D.C.

2 Q What were the purpose of those meetings?

3 A The purpose of the meeting in Denver was to  
4 get together, push everybody on getting their things

5 done, commenting on other people's -- what other 04:28PM

6 people had written, literally going through,

7 sometimes line by line, editing chapters, talking

8 about schedules, who was going to be where when to

9 work on what. That was the purpose of the Denver

10 meeting. 04:28PM

11 Q What about the Washington, D.C. meeting; same  
12 purpose?

13 A The purpose was different. Barbara Kanninen,  
14 Michael Hanemann and myself met with Kerry Smith.

15 Q Who is Kerry Smith? 04:29PM

16 A Kerry Smith is -- I'm not sure what his  
17 official title is. I view him as someone who's  
18 reviewed our work.

19 Q What is Mr. Smith's background?

20 A Mr. Smith is in one of the probably top two or 04:29PM

21 top three environmental economists in the world with

22 hundreds of publications and vast experience in

23 many, many areas.

24 Q He peer reviewed your document, or what was he  
25 doing? 04:30PM

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**EXHIBIT E**

**EDWARD MOREY, PhD, 4-29-09****142**

1       **A**       He -- I'm not sure what he did at every stage  
2       of the report or how much he did. At that point we  
3       presented to him some of our results to date. We  
4       didn't have any -- we didn't have all our data. We  
5       said here's what the data is showing up to this  
6       point.

04:30PM

7       **Q**       Dr. Morey, I've handed you what's been marked  
8       as Deposition Exhibit No. 17, which is an E-mail  
9       from you to Colleen Donovan with copies to Mr.  
10      Chapman and Barbara Kanninen, dated Wednesday,  
11      November 26th, 2008, the day before Thanksgiving in  
12      2008, and it looks from this E-mail that you are  
13      still working on Chapter 9 as of the end of  
14      November; is that correct?

04:31PM

15      **A**       That's -- yes.

04:31PM

16      **Q**       And you were asking Colleen or David Chapman  
17      and Barbara Kanninen to review Sections 9.2 to 9.6;  
18      do you see that?

19      **A**       I do.

20      **Q**       That earlier document that we looked at had a  
21      schedule for early November, so you were still  
22      working on this document at the end of November;  
23      right?

04:31PM

24      **A**       Yes.

25      **Q**       When did Dr. Krosnick take over for you in

04:32PM

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**EDWARD MOREY, PhD, 4-29-09****143**

1 producing the final draft of the document, Dr.

2 Morey?

3 MS. MOLL: Objection, asked and answered.

4 **A** There was some point in December where Jon

5 expressed a desire to take all the stuff and work on 04:32PM

6 the chapter. That was probably sometime early in

7 December. At that point I probably stopped working

8 on the chapter, making edits, waiting for him. When

9 he actually started to make the edits, I'm not sure.

10 Probably some time went by between those two points. 04:33PM

11 **Q** Why were you so busy in December that you

12 couldn't work on the chapter any longer?

13 **A** Well, I think two things. One, I have a

14 full-time university job. I was in the middle of

15 finals. It wasn't critically important to me who 04:33PM

16 wrote the sentences or didn't write the sentences,

17 and I was happy to let him do the work rather than

18 me.

19 **Q** What classes do you teach at the University of

20 Colorado? 04:34PM

21 **A** It varies from year to year. At the moment I

22 teach a PhD level course in statistics. I teach a

23 section of microprinciples to 500 students, and I

24 teach a course in environmental ethics.

25 **Q** Did you have the same schedule last fall? 04:34PM

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**EDWARD MOREY, PhD, 4-29-09**

**145**

1 retirement, and the initial suggested amount was a  
2 small amount, less than 300, and I liked the sound  
3 of 303 better 290.

4 **Q** Okay.

5 MR. DEIHL: I don't have any further 04:42PM  
6 questions for you, Dr. Morey.

7 MR. FREEMAN: Nothing from me today.

8 MR. MIRKES: No questions.

9 MS. TUCKER: No questions.

10 MS. MOLL: No questions from me. 04:42PM

11 MR. JONES: I have no questions.

12 MS. MOLL: The witness will read and sign.

13 VIDEOGRAPHER: This concludes the  
14 deposition. We are now off the Record at 4:41 p.m.

15 (Whereupon, the deposition was 04:42PM  
16 concluded at 4:41 p.m.)

17

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**EDWARD MOREY, PhD, 4-29-09**

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SIGNATURE PAGE

I, Edward Morey, PhD, do hereby certify that the foregoing deposition was presented to me by Lisa A. Steinmeyer as a true and correct transcript of the proceedings in the above styled and numbered cause, and I now sign the same as true and correct.

WITNESS my hand this \_\_\_\_\_ day of \_\_\_\_\_, 2009.

\_\_\_\_\_  
EDWARD MOREY, PhD

SUBSCRIBED AND SWORN TO before me this \_\_\_\_\_ day of \_\_\_\_\_, 2009.

\_\_\_\_\_  
Notary Public

My Commission Expires:  
\_\_\_\_\_

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**EDWARD MOREY, PhD, 4-29-09**

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CORRECTIONS TO THE DEPOSITION OF  
EDWARD MOREY, PhD

PAGE AND LINE NUMBER

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